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THE ART AND RELIGION OF FOSSIL MAN

THE ART AND RELIGION OF FOSSIL MAN

BY

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TO THE AUTHOR OF "LES HOMMES FOSSILES"

MARCELLIN BOULE

A TOKEN OF ADMIRATION AND GRATITUDE

G.-H. L.

TO THE MEMORY OF MY FATHER

THE WORK OF THIS TRANSLATION

IS FONDLY DEDICATED

J. T. R., JR.

PREFACE TO ENGLISH EDITION

ART, religion, fossil man—each in itself is a subject of absorbing interest to an ever widening circle of readers. A philosophic treatment of all three combined in a single small volume has much that should commend it to the serious-minded student. The first manifestations of art worthy of the name were coincident with the stage of cultural evolution known as the Aurignacian. Credit for this forward step is due to the race known as Cro-Magnon, dominant in parts of Europe, Asia, and Africa some thirty thousand years ago. Religion in its primeval form probably antedated art. However that may be, as early as Aurignacian times, art became the handmaid of religion and has remained so even down to the present time.

The author admits that our knowledge of the field he has attempted to cover is still fragmentary, but enough exists to make possible a basis for drawing at least tentative conclusions. The science of prehistory was born just one hundred years ago. Very soon after its birth, the first discovery of cave art was made (1833) although its great age and real significance were not even suspected until thirty years later. For the past seventy years the record of fossil man's handiwork in the realm of art has been unfolding and the end is not yet. Every year new discoveries are being made furnishing evidence of new phases and an ever widening area of cave art's distribution. The same type of human female figurine is now known to occur from western France, across Germany, Italy, Austria, Czechoslovakia, southern Russia, and as far east as Irkutsk in Siberia.

The author, Dr. Luquet, was born in 1876, and is at

present professor of Philosophy in the Lycee Rollin, Paris. Outside of his special field, he has been active in studying the psychologic aspects of prehistoric and primitive art as well as the art of the child. His publications number fifty, in most of which the subject of art in its various aspects is envisaged. Luquet is a frequent contributor to the journal *L'Anthropologie*. An ensemble of his researches in the field of art is soon to appear in the *Encyclopédie scientifique* (*Bibliothèque d'Anthropologie*).

The translator, J. Townsend Russell, Jr., was a student of the American School of Prehistoric Research in 1925. He remained in France for three years thereafter, continuing his studies in the field of prehistory with the Abbé Breuil and independently. His summers were spent in carrying on explorations and excavations, the results of which have been published in the Bulletin of the American School of Prehistoric Research. Since the autumn of 1928 Mr. Russell has been attached to the United States National Museum. Fortunately for the English reading public, he has found time to put his knowledge of the French language to good use by giving us a faithful translation of Luquet's *L'art et la religion des hommes fossiles*.

George Grant MacCurdy

New Haven, Connecticut,
February, 1930.

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PREFACE

AT the present time we possess a certain amount of precise data on the physical constitution of our more remote ancestors. This has been authoritatively published and construed by Monsieur M. Boule in his work *Les Hommes Fossiles*. But the psychologist does not interest himself in human paleontology any less than does the naturalist, and wants to represent to himself the Paleolithic soul as accurately as possible.

Such a representation can only be based upon the material traces left by those men who disappeared thousands of years ago. Assuredly, these conclusions will remain even more conjectural than those of the paleontologists. But it should be remembered that it is the same in all psychology, for when the psychologist wants to study minds other than his own, he can only do so by interpreting their external manifestations. The difficulty is certainly incomparably greater here because in attempting to interpret prehistoric documents by our present mentality one would be led into grave errors, and it is necessary to endow oneself, as far as possible, with a Paleolithic soul. If this intellectual gymnastic and almost acrobatic task is hard, it is facilitated by a knowledge of similar primitive mentalities with which ethnology can enter into direct contact among the savages. The psychology of the modern infant, studied with precaution, can also furnish some valuable indications.

I will present my conclusions with all the prudence required by the insufficiency of documents and the complexity of the facts. In my way of thinking, peremptory assertions are not compatible with objective thought. All theories are more or less hypothetical, but the simplest of them have the greatest chance of being false. A review of what we know of the subject tends to balance the sheet of our ignorance and knowledge. To understand with precision the problems that are posed by the assembled facts is already a great deal, even when it must be admitted that the latter do not permit a solution of the former.

It is possible and desirable that the discovery of new facts

will render our knowledge more exact and complete. But science could not advance if it stopped in the task of working up acquired material to wait for new discoveries. Today the known facts are sufficiently numerous to permit and demand a provisory theory based on their compilation. Besides, new facts will take greater interest in view of the conclusions drawn from our present-day knowledge. With the weakness of the human mind, discussion is the least imperfect method of approach to the truth. And one can discuss only those assertions which, possibly questionable, are at least enunciated with precision. It is clear propositions of the latter sort that I have done my best to present, and upon which I call for the objections which may have escaped me.

The illustrative material demanded for a work of this kind, as much for quantity as for quality, has been rendered possible by courtesies for which I wish to express my gratitude. My eminent friend, the Abbé Breuil, permitted me to draw freehand from his admirable reproductions of Paleolithic works of art. Professor Obermaier of the University of Madrid allowed me to utilize the most characteristic of his reproductions of Spanish rock paintings. I am indebted to Dr. R. de Saint-Périer for the representation of the objects from Lespugue, and to M. Passemard for that of his finds at Isturitz. Professor Boule granted me the signal favor, for which I am infinitely grateful, of putting at my disposal the plates of the luxurious publications of the Institut de Paléontologie Humaine.

In spite of this coöperation, it was impossible to present reproductions of all the documents mentioned in the text. For the convenience of the reader I have given at least, wherever possible, the reference where those missing may be found. The *Répertoire de l'Art Quaternaire,* by M. S. Reinach, who supplies a veritable *corpus* of works on Paleolithic art published up to 1913, is indicated by the abbreviation *Rép.* Abbreviation *L'A.* designates *L'Anthropologie.* The works on Altamira (*Alt.*), the Cantabrian Caverns (*Cant. Cav.*), Font-de-Gaume (*F. de G.*), les Combarelles (*Comb.*), the Grimaldi caves (*Grim.*), are the great monographs published by the Institut de Paléontologie Humaine.

G.-H. L.

PART ONE

ART

THE ART AND RELIGION OF FOSSIL MAN

I.

GENERAL ORIENTATION

HISTORIC peoples about whom we are informed by written documents are relatively recent. An antiquity of man, infinitely more remote, which had long remained unknown, has been revealed by the discovery on one hand of osseous *débris* and more or less well-preserved skeletons, and on the other of objects made by man. No one today remains ignorant that the Age of Metals, first of bronze, then of iron, was preceded, at least in Europe, by a Stone Age in which stone, together with the bones of animals, cervidae horn, and probably wood, were the materials for tools and arms. We have learned also that the Stone Age falls into two great divisions; the recent, called the Neolithic, characterized by axes of hard stone polished by rubbing; and the ancient or Paleolithic, in which stone, chiefly flint, was worked by percussion. It is the artistic productions of the latter period that we are to study. Since the middle of the nineteenth century finds have considerably multiplied and have brought about research in which, it may be permitted to note in passing, French science holds a paramount place. These artistic creations present a double interest: first, they have a high aesthetic value, and, in the subjects on which the creators did their utmost with rudimentary tools, they easily stand comparison with the best productions of our refined technique. Besides, in the present stage of our knowledge, they are the most ancient works of art known. Hence, in asking why they were executed, one may hope to arrive at a no longer theoretic but objective solution of the problem of the origins of art.

In the European Paleolithic, the chronological succession of epochs chiefly characterized by their industry has been distinguished. The Lower Paleolithic, ending with the Mousterian, left no works of art. Consequently, we have only to consider the Upper Paleolithic or Reindeer age, so called because this animal

is the characteristic feature of the fauna corresponding to a cold and dry climate analogous to that of the steppes and tundras. The Reindeer age commences with the Aurignacian culture and terminates with the Magdalenian. Between the end of the first and the appearance of the second is inserted a period known as the Solutrian, which seems to have existed only in certain regions and to be of but secondary interest from the artistic point of view.

The age of the European Paleolithic civilizations corresponds roughly to the Pleistocene period of the geologists. Although their chronological succession appears to be fixed in an almost definite manner, their absolute dates remain undetermined and have been variously estimated by the authorities. After the most moderate estimates the Aurignacian would be placed at from twenty-five thousand to sixteen thousand years before our era, the Magdalenian at from sixteen thousand to twelve thousand.

The general aspect of regional industries may be left aside, as art is of a much more homogeneous character. They show the development of influences on one another as between populations different ethnologically and doubtless anthropologically also, which are not yet completely elucidated. The Reindeer age culture had as its center of dispersion the region of the Périgord and the Pyrenees with its Spanish Cantabrian extension. Thence it spread all over Europe, even into Great Britain, into Austria, into Moravia, and as far as Russia. There have been found in Moravia (Przedmost, Kostelik Cave) and in Russia (Mezine, in the State of Tchernikow) specimens of a decorative art sometimes purely geometric (Fig. 11*b*, p. 19, and Fig. 39, p. 50) and at other times derived by an extremely advanced conventionalization of the human figure (Fig. 11*a*, p. 19)[1] which has caused various authors[2] to distinguish an oriental province of geometric style. But these manifestations are limited in time to a short period (final Aurignacian). They were never found westward farther than in Moravia, and on the contrary in their own prov-

[1] Breuil, "Les Subdivisions du Paléolithique Supérieur," *Congrès International Préhistorique* (Geneva, 1912), pp. 184–188; "Notes de Voyage Paléolithique dans l'Europe Centrale," *L'A.*, XXXIV (1924), 515–546; XXXV (1925), 276–278. See also, pp. 47, 49, 50.

[2] Hoernes-Menghin, *Urgeschichte der bildenden Kunst* (Wien, 1925), p. 665.

ince they are always associated with naturalistic sculptures of the style of the rest of Europe, either human (figures of Przedmost, Fig. 96, p. 138), as the masculine statue of Brünn (Fig. 104, p. 162), the feminine statuettes of Vistonice (Unter-Wisternitz) in Moravia and of Kostienki (in the State of Voronezh), or animal (mammoth of Przedmost [Fig. 27, p. 33]) and various animal figures of Vistonice.[3] We are then in the presence, not of a province of art, but of a simple regional episode.

A certain number of the activities classed among the fine arts probably existed in Paleolithic times. A number of wall paintings have been considered as representing dances. This interpretation, however, is not conclusive, but the representation of several disguised individuals, by analogy with savages, renders the existence of the dance in the Magdalenian highly probable. The dances once admitted, it is likely that, as among the savages and for psychological reasons, they were accompanied by music, if only that of the voice. As for musical instruments discovered in the excavations, some tubes of bird bone considered by Piette as the elements of the pipes of Pan are more probably needle-cases. Perhaps one could see a primitive flute in the bone of a hare perforated with several holes, found in an English Paleolithic cavern.[4] In several stations,[5] a number of the phalanges of the antelopidae or cervidae, notably of the reindeer, have been found pierced near their extremities. These are currently considered as whistles comparable to those made by our children with apricot seeds. Their use as whistles is not impossible, but in some of them, notably the most ancient, dating back to the Mousterian levels (La Chapelle-aux-Saints, La Quina), the hole is not produced by manual work but by the teeth of carnivorous animals.

As to architecture, it is probable that the Paleolithic peoples inhabited, besides the rock shelters and caves where their hearth-levels have been found, wattle huts which appear to be represented by figures called "tectiforms," engraved or painted on the walls of caverns (Fig. 101, p. 143).

[3] *IPEK* (*Jahrbuch für prähistorische und ethnographische Kunst*), II (1926), 180–181; *L'A.*, XXXV (1925), 290, Fig. 12.

[4] Guide of the British Museum, *Stone Age*, p. 62, Fig. 71 (Kent's Hole).

[5] Solutré, Chaffaud, Placard, Les Eyzies, La Mouthe, Laugerie-Basse, Bruniquel, Aurignac.

Another form of art, personal decoration, was highly developed among the Paleolithic peoples, as among the savages, to say nothing of the civilized races. We restrict ourselves here to a mention of the subject and give it ample development farther on.[6]

But one understands principally by the term art, painting, sculpture, and engraving, that is to say all the form-producing human activities, whatever the technique, materials, or implements employed. As far back as those remote ages, these artistic productions are of an extremely varied nature. One at first distinguishes them from the point of view of their visual aspect as pictures representing objects or actual beings, and in simple assemblages of lines which, at least at the first glance, seem devoid of figured significance, and which might be called geometric or linear. From the nature of the materials employed to execute them, they are divided into "movable art" on transportable objects, and "cave art" executed on the walls, the ceilings, and even sometimes the floors of caverns. Again, one can differentiate works of art from the point of view of their presumed destination. In the case of drawings, their ground or supporting surface is an element of classification. When a geometric design or a drawing is intended to ornament and render more pleasing to the eye an object already preëxistent, such as a tool, it is considered decorative. When the stone, bone, or horn serves no other purpose than to support the drawing as does a sheet of paper, it is called an "independent work of art." The principal implements to which decoration was applied are first the dart throwers and the perforated batons, the use of which is as yet undetermined. They are made in most cases of reindeer horn and have been referred to as "batons of commandment."

From the point of view of technique these works of art are naturally divided into painting, sculpture, and engraving. For a long time sculpture, in the opinion of Piette, was considered as older than engraving, which was thought to have come from it by stages of evolution such as cut-out contours, analogous to toy soldiers, reliefs, and *champlevé*. This conception, in accord with the facts known at the time of Piette's researches, no longer corresponds with the present documentation. Although

[6] Cf. below, pp. 39, 46.

it is true that sculpture predominated during the Aurignacian epoch and engraving at the end of the Magdalenian, painting, sculpture, and engraving seem to have appeared simultaneously, and not successively, as early as the beginning of the Aurignacian.

This statement of the relative chronology of artistic techniques would be but of secondary importance had Piette not presented some *a priori* arguments to uphold the necessary preexistence of sculpture in relation to engraving. The objects

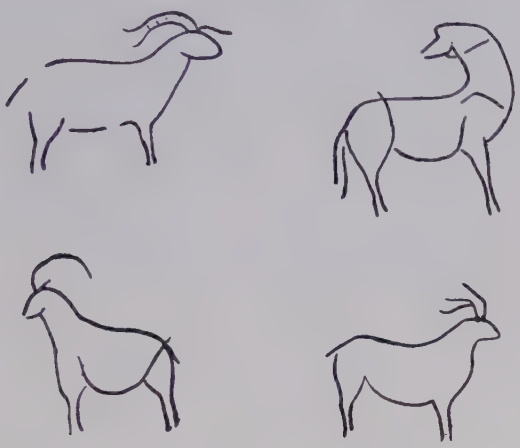

Fig. 1. Aurignacian wall engravings (Pair-non-Pair, Gironde). *Scale:* about 1/25 (after Daleau).

represented by figured art, and more particularly living beings, have volume in the geometric sense of the word, bodies of three dimensions, said he. Sculpture having also three dimensions is a more natural mode of representation than engraving which renders in two dimensions objects of three. This supposes the abstraction of the third dimension, and, being a more complicated process, its invention must have been later than that of sculpture.

But one must remark that the technique of color which can produce only objects of two dimensions is as old as the glyptic technique or scratching with flint implements which can produce both sculptures in three dimensions and engravings in two. And in the latter class of work, engraved images of two dimensions

are not of a period later than that of the sculptures in three. The theoretical argument of Piette is then contradicted by the facts.

Besides, the theory in itself may be contested, and it seems to rest on a conclusion resulting from too superficial a psychology. It is true that the representation in two dimensions of objects of three dimensions supposes an abstraction, but this does not prove that the said abstraction is of a later date. Without even stating the psychological banality that abstraction is involved in the simplest mental operation, such as a sensation, we can establish undeniably the presence of abstraction in the most ancient work

Fig. 2. Feminine statuette (Willendorf, Austria).
Seen in front and in profile. *Scale:* 1/2 (photograph from a cast).

of art. In fact glyptic technique makes abstraction of the colors of the object represented. It is the same in the technique of painting because the Aurignacian paintings are simply outlines with colors, yellow, red, and black, which have no more relation to the actual color of the object represented than our own drawings in black pencil. In that which now concerns the abstraction of the third dimension that characterizes engraving in opposition to sculpture, it is an error, yet a very natural one, to believe that a work of art reproduces the objective being of which it seems to be the image. It may be said to be but a translation in the second degree, and it really is but the mental representation

that the artist has of the object and especially of its visual characteristics, a representation given by the senses and retained by the memory. But the bulk of the object, its possession of a third dimension, is not a natural attribute of the visual sense. Leaving aside the tangible elements in the acquired perception of the third dimension, an object having three always presents itself to the eye as a field of color limited by a contour and showing but two. That which constitutes the third dimension is not a visual sensation, but an idea that the object which at the moment gives a visual sensation of a certain shape in two dimensions has offered and will again, from another viewpoint, cause other visual sensations also in two dimensions but of a different form, as for example those given by a bison seen from in front, in profile, and in the rear. Consequently, the artist who wishes to render the third dimension of an object intends to present, not its aspect at a given instant, but its varying appearances at successive moments. It is not then the representations of two dimensions, but those of three which suppose a more complicated mental process and, if one had to conclude, as Piette would have it, from psychological complexity to chronological posteriority, then sculpture must have originated after engraving. If, then, sculpture is the best technique for the rendering of the third dimension (yet drawing is capable of rendering it to a certain extent by a process I have called "intellectual realism" which, as we will see,[7] was not unknown in the Paleolithic), it does not in any way result that the first artists insisted on rendering the third dimension and that sculpture must have been the earliest of artistic techniques.

The artists' tools for sculpture and engraving (not to mention the designs traced by the fingers in soft clay on the walls and floors of caves) consisted of flint graving-tools, fine points for the detail, and chisels or stone hammers for the hewing-down of contours of great reliefs.

Paleolithic sculptors also practiced modeling in clay, as is attested by the bison from Tuc d'Audoubert (Fig. 3, p. 10) and other figures from the cave of Montespan (Haute-Garonne).[8]

[7] Cf. below, p. 72.

[8] Comte Bégouen and N. Casteret, "La Caverne de Montespan," *Revue Anthropologique*, 1923, pp. 533 *et seq.* Cf. below, p. 104.

Fig. 3. Clay bisons (Cave of Tuc d'Audoubert, Ariège).
Scale: about 1/9 (photograph by M. Max Bégouen).

In this last cavern a statue of a headless bear shows a hole in the neck apparently caused by a peg and enlarged by the weight hung thereon, and the skull of a bear was found on the cavern floor between the forefeet of the statue. It is likely, then, that the headless statue had been completed by a real bear's head. Besides, other indications suggest that the modeled body might have been covered with a beast's pelt. It is not impossible that the ivory statue from Laugerie-Basse (Dordogne) called "The Immodest Venus" (Fig. 4, No. 3, p. 12), which never had either head or arms but presents a groove in the region of the neck, was completed with pieces of wood or horn and bits of skin in the same way that modern dolls have a chamois body with a head in porcelain and are covered with clothes.

The colors used in painting were black furnished by charcoal and various minerals containing manganese, yellow and different shades of red derived from ocher. These colors were employed sometimes in a solid state as crayons, or pulverized and mixed with water, oil, marrow, or grease, when they were spread either with a finger or a brush. Bone tubes have been found still containing pulverized color, also stones which served as saucers or palettes yet preserving traces of color.

In the course of the Paleolithic age artistic technique suffered some very complex modifications. Their study would be so lengthy that we shall restrict ourselves to a mention of the principal phases of wall painting. After the drawings where the contours alone were painted in a line, thin at first, sometimes punctuated (Fig. 5, p. 13), then thicker and dribbling, came paintings properly called, with the whole field in color. These first had shaded tints, then flat tones, with blanks saved for effect, next flat uniform tints, and finally the true polychrome. One finds in all epochs frequent examples of collaboration between painting, engraving, and sculpture, not only in the final Magdalenian where the polychromes were first sketched with incisions and then scraped after coloring to produce the effect of modeling, but also in the Aurignacian where traces of painting have remained on the wall engravings of Pair-non-Pair (Fig. 1, p. 7),[9] the reliefs of Laussel (Fig. 9, p. 17), the statue of Willendorf (Fig. 2, p. 8), all of which makes us wonder

[9] *Alt.*, p. 19.

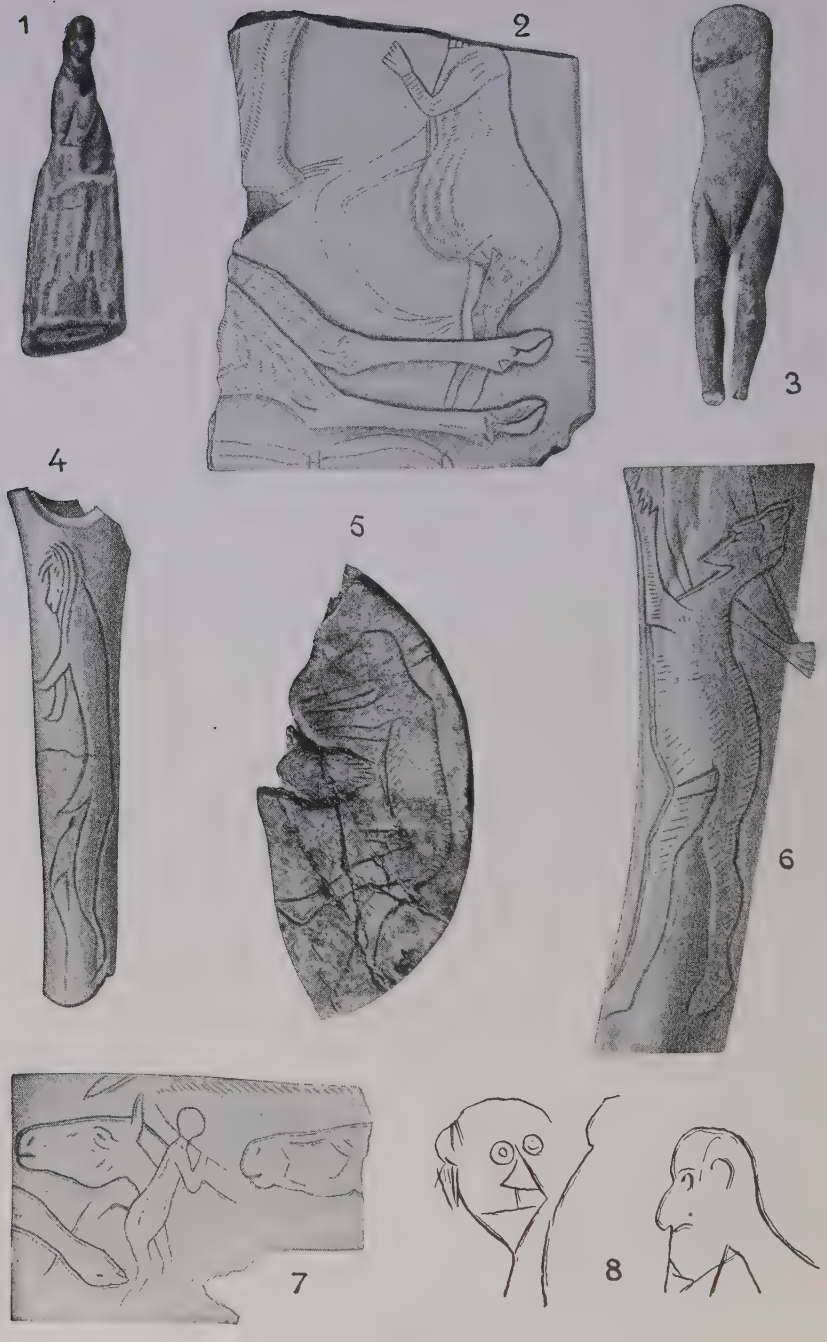

Fig. 4.

whether, in the "Hooded figure" of Brassempouy (Fig. 6, p. 14), which is without eyes and mouth, these were not indicated in colors which have today disappeared. Traces of red color have

Fig. 5. Does.
Wall paintings in red (Covalanas, Province of Santander, Spain) (after Breuil).

lasted on the statuette representing a kid, found at Saint-Michel d'Arudy[10] and the cervidae of Enlène (Fig. 48, p. 59), which both appear to be fragments of dart throwers.[11]

Whatever the differences in nature or technique, the works of Paleolithic art form on the whole a homogeneous ensemble. Different culture levels of the same station have yielded almost identical figures, both in movable and wall art. This is notably

[10] *Rép.*, p. 22, Nos. 6, 7.
[11] Bégouen, *L'A., Enlène,* XXIII (1912), 297.

Fig. 4. Magdalenian human figures.
1. Feminine statuette worked in an incisor of a horse (Mas d'Azil, Ariège). 2. The "Woman with the Reindeer" engraved on a reindeer horn (Laugerie-Basse, Dordogne) (Nos. 1 and 2 after Piette). 3. "The Immodest Venus," feminine statuette in ivory (Laugerie-Basse, Dordogne) (photograph from the original at the Museum). 4. Engraving on a perforated reindeer horn baton (Gourdan, Haute-Garonne). 5. "Dancer" engraved on a bone disk (Mas d'Azil). 6. "The Hunter of Aurochs" engraved on reindeer horn (Laugerie-Basse). 7. Part of an engraved reindeer horn (La Madeleine, Dordogne) (4–7 after Piette). 8. Wall engravings (Marsoulas, Haute-Garonne) (after Breuil).

the case for the horses' heads of Hornos and for the does' heads of the Lower Magdalenian of Altamira and Castillo. Thus the most convenient manner of reviewing these productions is to classify them according to the subjects represented.

Fig. 6. Aurignacian human statuettes in ivory (Brassempouy, Landes). Above, left, "The Hooded Figure," slightly reduced. Below, in the middle, "The Pear." *Scale:* 3/4 (after Piette).

We shall momentarily leave aside the geometric designs, taking them up later in detail.

Other figures, belonging almost exclusively to the wall art, remain enigmatical. Several, notably at Altamira and Santian,

could represent a variety of weapons analogous to clubs or boomerangs, while others might be intended for arrows or harpoons. Others called "tectiforms" because they resemble the framework of huts (Fig. 101, p. 143) form very complex series and probably do not all have the same significance. Finally, there are others which remain inexplicable and one is limited to giving them the very vague name of "scutiforms" (in form of a shield) which does not correspond even approximately to their aspect. There are also some "pectiniforms" (in the form of a comb), which type is best seen in red on the flank of a polychrome bison from Marsoulas (Fig. 7, p. 15) which could be the conventionalized representation of a hand.

Fig. 7. Bison.
Wall painting in red and black (Marsoulas, Haute-Garonne). On the flank a pectiniform design. *Scale:* about 1/30 (after Breuil).

Drawings of plant life are extremely rare and, besides, open to an ambiguous interpretation, where one must hesitate to distinguish between plants and arrows. However, there is a leafed branch engraved upon a bone, found in the cave of the Trilobite (Fig. 8, p. 16); another is seen on a perforated baton from Veyrier (Haute-Savoie).[12] An engraving on bone from Mas d'Azil[13] seems to represent a bush with its branches and roots.

[12] *Rép.*, p. 187, No. 1.
[13] *Ibid.*, p. 157, No. 4.

Two curious sculptures in reindeer horn from Lourdes[14] rather resemble an ear of corn.

At the commencement of Paleolithic art, the human figure, and especially the feminine, is most in evidence. There are from the beginning of the Middle Aurignacian the ivory statuettes from the Grotte du Pape at Brassempouy (Landes) (Fig. 6, p. 14) and the two grooved engravings on stone from Terme-Pialat (Dordogne).[15] From the Aurignacian also, but a little more advanced, we have the statuettes in steatite and in bone from Baoussé-Roussé[16] and an engraving on bone from Cro-Magnon.[17] Then the feminine statue in oölitic limestone from Willendorf, near Vienna (Austria) (Fig. 2, p. 8), and another in mammoth ivory, of elegant form, discovered in 1926 by Bayer in the same level of that station,[18] the ivory statuette of Kostienki (State of Voroneje, on the lower Don),[19] one feminine statuette in serpentine from Savignano (Province of Modena, Italy),[20] and the five remarkable reliefs on stone from Laussel (Dordogne) belong to the end of the Aurignacian period. One of the latter represents a man and another an obese woman lifting up in her right hand the horn of a bison (Fig. 9, p. 17). A veri-

Fig. 8. Leafed branch engraved on a bone (Cave of the Trilobite at Arcy-sur-Cure, Yonne) (after Parat).

[14] One in *Rép.*, p. 135, Nos. 10, 11.
[15] A. Delugin, *Bull. Soc. Historique et Archéologique du Périgord*, 1914.
[16] *Rép.*, p. 25.
[17] *Ibid.*, p. 62, No. 3.
[18] *IPEK*, II (1926), 288.
[19] *L'A.*, XXXIV (1924), 346–350, and figure.
[20] *Ibid.*, XXXVI (1926), 431, Fig. 1.

table masterpiece of Aurignacian art is the ivory statuette recently discovered at Lespugue (Haute-Garonne) (Fig. 10, p. 18)[21] which exhibits a sort of loin cloth, and also attests a technical advancement that sculpture only reaches comparatively late in the partial separation of the arms from the body.

Fig. 9. Reliefs on stone: "Woman with the Horn" and a male personage (Laussel, Dordogne). *Scale:* 1/6 (after Lalanne).

The male statuette from Brünn (Moravia) (Fig. 104, p. 162) where the one remaining arm is well detached from the trunk belongs to the close of the Aurignacian or at most, according to some authorities, to the dawn of the Solutrian period. In any case, it was executed under Aurignacian traditions. Of the same epoch, there is a very gross figure in reindeer horn from Trou-Magrite (Belgium)[22] and others almost formless worked in the phalanx of the mammoth from the station of Przedmost (Moravia) (Fig. 96, p. 138) which also yielded an engraving on ivory probably representing an extremely conventionalized feminine

[21] *L'A.*, XXII (1922), 365, Fig. 2 and Pls. I–III.
[22] *Rép.*, p. 171, Nos. 8, 9.

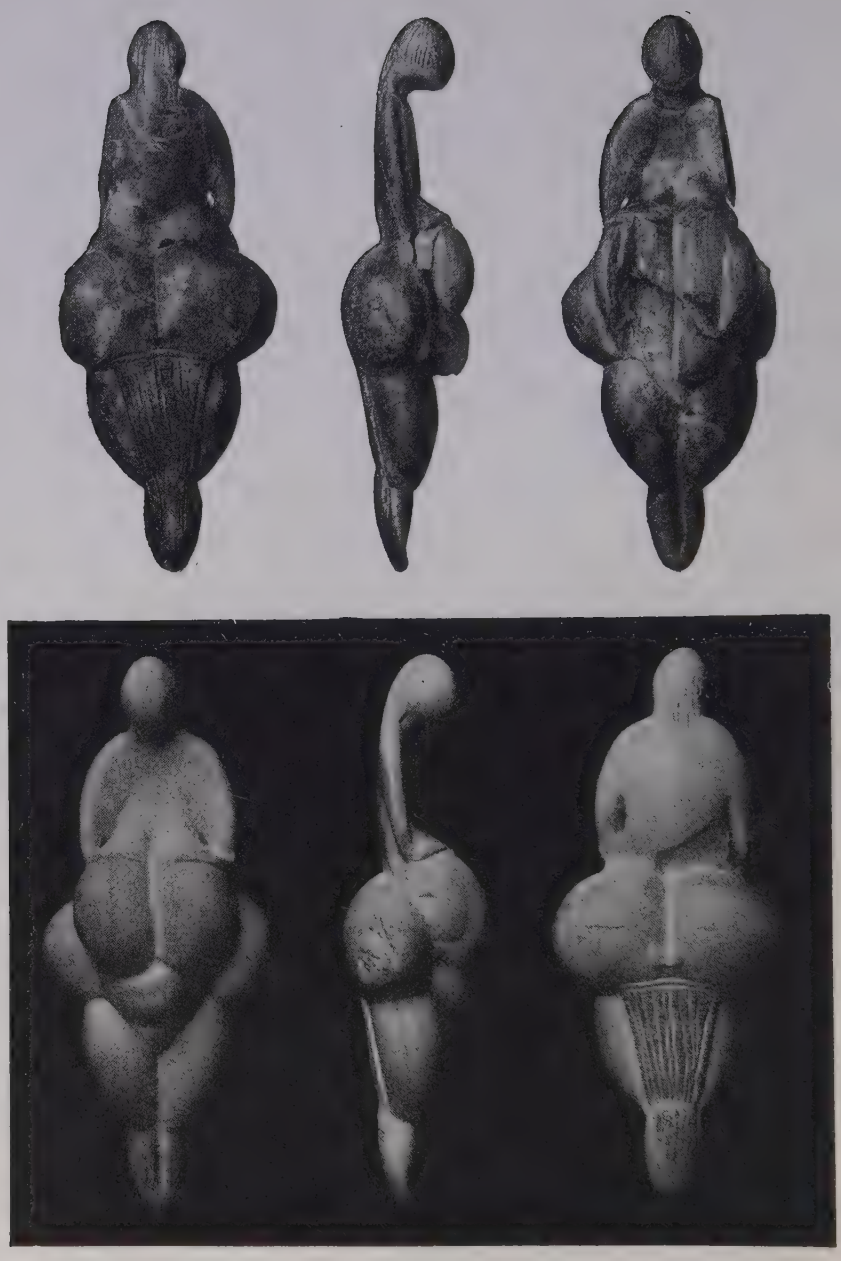

Fig. 10. "The Woman of Lespugue" (Haute-Garonne).
View from the front, profile, and back. Above, the ivory statue as it was found.
Below, the restored cast. *Scale:* 1/2 (Excavations of R. de Saint-Périer).

figure (Fig. 11, p. 19). Some ivory and bone objects from Mezine (Ukrania) also appear to be human figures. The shelter of La Colombière (Ain) has furnished an engraving of a man executed on the shoulder blade of a mammoth (Fig. 12, p. 20) which came from a level surely not Aurignacian, but older than the Magdalenian.

The human figure is clearly in regression during the Magdalenian epoch, both in numbers and finish of execution. One finds very little sculpture of that epoch, save the ivory "Im-

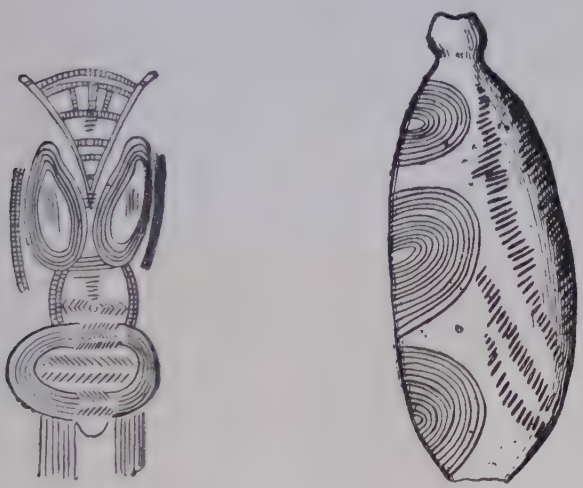

Fig. 11. Objects from Przedmost (Moravia).
To the left a partly reconstructed conventionalized feminine figure engraved on a fragment of a tusk. To the right a decorated ivory locket.
Scale: 1/2 and 2/3, respectively.

modest Venus" from Laugerie-Basse (Fig. 4, No. 3, p. 12), an incisor of a horse worked into a feminine figure from Mas d'Azil (Fig. 4, No. 1, p. 12), and some very coarse busts in reindeer horn from Laugerie-Basse and Placard. Only on a chisel from the Cave des Fées at Marcamps (Gironde) and on the extremities of two dart throwers worked in the form of heads, one from Gourdan and the other from Placard, has the human figure been found in portable or decorative art. The engravings are slightly less rare, but quite as mediocre, and sometimes detestable. The best are two figures from Laugerie-Basse, the

Fig. 12. Man, reindeer, and bear, engravings superimposed on a mammoth bone (La Colombière, Ain). *Scale:* about 1/2 (after Maillet).

Fig. 13. Anthropoid head forming the extremity of a reindeer-horn dart thrower. (Museum of Saint-Germain, Piette Collection.)

"Woman with the Reindeer" (Fig. 4, No. 2, p. 12) and the "Hunter of Aurochs." The extremity of a flake of bone from the same station is engraved at its fragmentary termination with a human head. Several human figures, some of them so coarse as to be almost unrecognizable, are engraved on a small slate plaque from Aurensan, on a perforated reindeer-horn baton from Gourdan (Fig. 4, No. 4, p. 12), on some stones from Lourdes (Fig. 110, p. 184), on reindeer horn from La Madeleine (Fig. 4, No. 7, p. 12), on a bone from Chancelade (Fig. 113, p. 187), on two sides of a bone disk from Mas d'Azil (Fig. 4, No. 5, p. 12).

Wall art also presents several human, or, better, anthropomorphic figures at Marsoulas (Fig. 4, No. 8, p. 12), at Font-de-Gaume, at Combarelles, and at Portel. Some are found at Hornos[23] and Altamira which are surely Aurignacian. One from Altamira (the fallen frieze) (Fig. 88, p. 124) could even date from the beginning of the Aurignacian.[24]

In many of these, the coarsely silhouetted heads cannot be said even to resemble animals, but this explains itself by the clumsiness of execution such as that evinced in the drawings of our children. But this explanation does not suffice for some figures which possess animal characteristics apparently intended. Various human figures are furnished with a tail which might be but the appendage of the skin of an animal worn as clothing. Such are, for example, the engravings on reindeer horn from Lacave (Lot) (Fig. 14, p. 22) or in the wall art a figure from Hornos.[25] But other examples to which we will return[26] present, associated or not with this tail, animal heads which must correspond to ceremonial disguises as seen among modern savages.

Animals furnished the Paleolithic artists their subject of predilection. Their representations are of unequal value, some being formless scrawls which must be attributed to apprentices if not to children. Others, coarsely done, belonging to the Upper Magdalenian, give the impression of hasty work. These are pieces of

[23] Obermaier, *El Hombre fosil* (Fossil Man in Spain) (2d ed.; Madrid, 1925), p. 140, Fig. 61*b*.

[24] On human or anthropoid representations, cf. *Comb.*, Chap. VIII.

[25] Obermaier, *loc. cit.*

[26] Cf. below, p. 184.

commercial art, so to speak, of the kind that formerly decorated the plates sold in the country villages. The figures, too hurriedly executed, are so conventionalized that the original motive is recognized, but with difficulty. However, a great number of them are treated with such mastery that not only a naturalist, but anyone who has seen the animals represented recognizes them at once.

Shells and coleoptera are represented in quite an exceptional manner in the form of pendants.[27] Several engravings of serpents are known (Fig. 15, p. 22).[28] Although more frequent, fish and birds, chiefly represented in sculpture, are relatively rare. Besides ambiguous figures (Fig. 79, p. 93),[29]

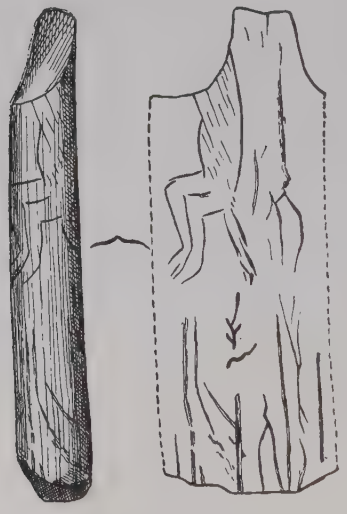

Fig. 14. Engravings on reindeer horn (La-cave, Lot) (after Vire).

Fig. 15. Serpents engraved on bone (Cave des Rideaux, at Lespugue, Haute-Garonne). Actual size (after R. de Saint-Périer).

[27] Cf. below, pp. 36, 37.

[28] R. de Saint-Périer, *L'A.*, XXXIV (1924), 10–14.

[29] Cf. *Rép.*, p. 62, No. 6 (Croze de Tayac); p. 156, No. 3, and p. 157, No. 5 (Mas d'Azil); p. 173, No. 8 (Grotte Rey); and p. 184, No. 1 (Teyjat).

one can cite representations of the salmon (Fig. 16, p. 23), the sole (Fig. 18, p. 24), the trout (Fig. 17, p. 24), the pike (Fig. 36, p. 46),[30] the tunny-fish.[31] Birds are represented by the swan, the goose, the duck, the crane, and the grouse (Fig. 19, p. 25).[32]

But it is mammals[33] that are chiefly represented in movable art as well as wall art. The classes of animals represented are numerous and, considered together with the fossilized bones found in the same stations, conjure up the fauna of the epoch.

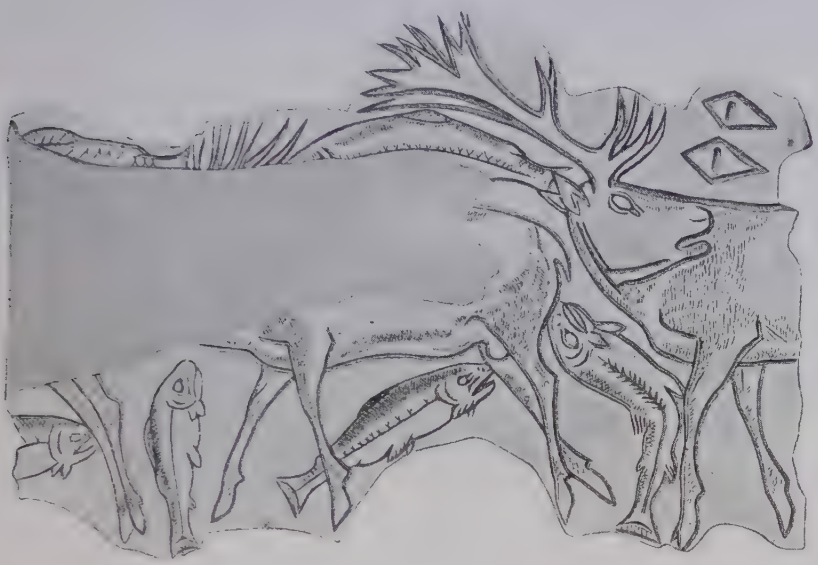

Fig. 16. Stags and Salmon. Engraving on stag horn (unrolled). (Lorthet, Hautes-Pyrénées). *Scale:* about 3/4 (after Piette).

The reindeer, which gave its name to the epoch and which was the universal resource of the men of those times, not only for its meat as food, but also for its bone and horn as workable material, and its tendons that they dissected into cords of any size desired, appears frequently (Figs. 61, p. 76; 63, p. 78; 64 and 65, p. 79; and 94, p. 135), yet perhaps less so than the bison (Figs.

[30] Cf. *Rép.*, p. 114, No. 8, and p. 116, No. 4 (Laugerie-Basse).

[31] *Ibid.*, p. 167, No. 3 (wall engraving from Pindal).

[32] On representations of birds in Paleolithic art, cf. *Cant. Cav.*, Chap. XVI.

[33] On the figures of mammals in Paleolithic art, cf. *ibid.*, Chap. XV; *F. de G.*, Chaps. X–XV; *Comb.*, Chaps. VIII–XIII.

Fig. 17. Fish engraved in the soil (Cave of Niaux, Ariège).
Scale: 1/5 (after Breuil).

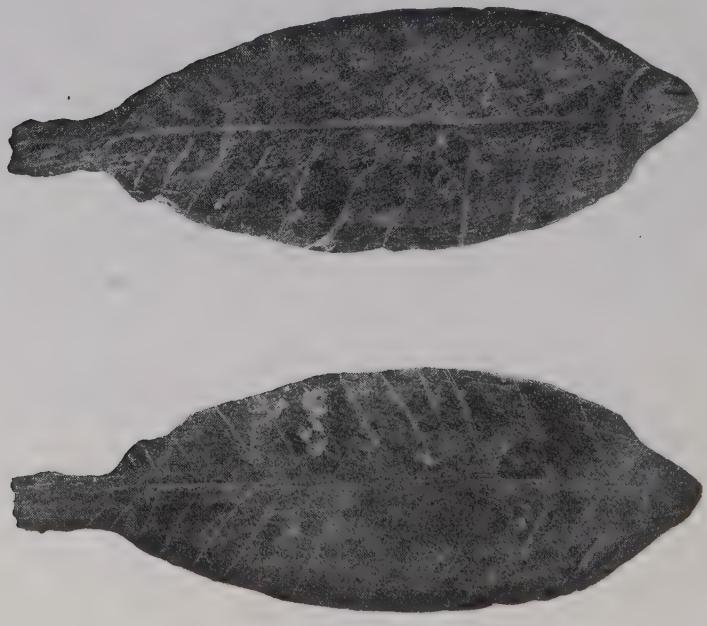

Fig. 18. Fish (sole ?). The two sides of an engraving on bone with cut-out contours (Grotte des Bœufs, at Lespugue, Haute-Garonne).
Twice the actual size (after R. de Saint-Périer).

3, p. 10; 7, p. 15; 53, p. 69; 66, p. 80; 69, p. 84; 73, p. 88; 78, p. 92; 101, p. 143; 102, p. 144). Next comes the horse, fairly frequent, of which at least two main species are shown. Also there are representations of wild cattle, aurochs or urus, the mammoth (Figs. 27, p. 33; 44, p. 55; 92, p. 133), the stag (Fig. 16, p. 23), the wild goat (Fig. 74, p. 89). Then, more rarely and even exceptionally are found the rhinoceros (Fig. 83, p. 109), the bear (Fig. 67, p. 81), the seal (Fig. 36, p. 46), the otter, the musk-ox, the roe deer, the chamois (Fig. 21, p.

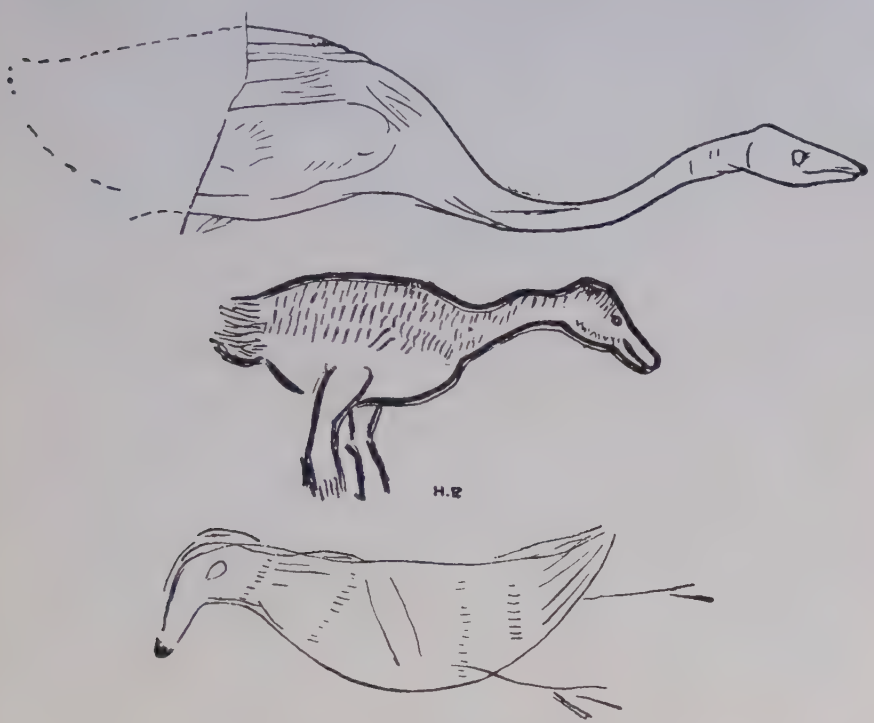

Fig. 19. Engravings of birds.
1. Swan on a round pebble from Gourdan. 2. Duck on a reindeer horn from Gourdan. 3. Bird on a stone from Lourdes (after Piette).

26), the elk (Fig. 70, p. 85), the saiga antelope, the cave lion (Fig. 80, p. 102), the hyena, the wolf, the wild cat, the glutton (Fig. 40, p. 52), the wild boar (Fig. 95, p. 137), the fox and the hare (Fig. 22, p. 27). Perhaps the masterpiece of this animal art is an admirable head of a neighing horse sculptured in

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reindeer horn and coming from Mas d'Azil, which reveals at once a consummate mastery of technique and an amazing rendering of expression and life.

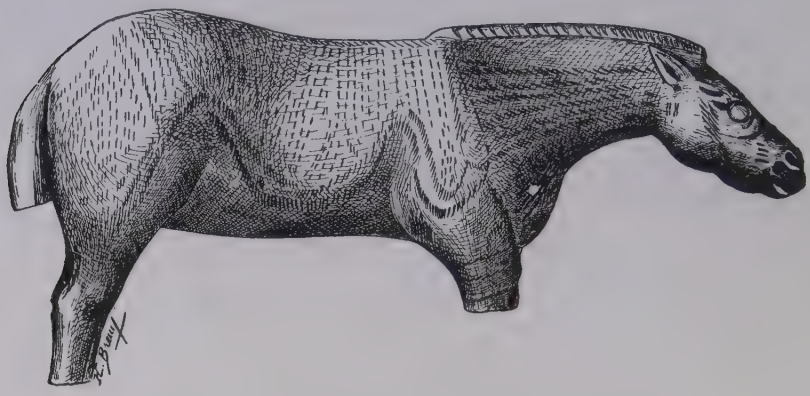

Fig. 20. Equidae. Statuette in ivory (Cave of Lourdes).
Scale: about 4/3 (after Piette). (Drawing by H. Breuil.)

In numerous examples, the head alone has been treated. Special mention is due to the skull of a horse sculptured in reindeer horn and coming from Mas d'Azil.[34] This is without doubt, like other figures, the image of a hunting trophy, and perhaps

Fig. 21. Heads of the chamois and of the marmot(?).
Engraving on reindeer horn (Gourdan, Haute-Garonne).
Scale: about 5/6 (after Piette).

even an anatomical study. Some drawings of isolated parts of the body, in particular the horns of the cervidae or the legs, may be considered as sketches. Facts of this sort suggest that if there

[34] *Rép.*, p. 149, No. 4.

Fig. 22. Hare. Engraving on stone (Isturitz, Basses-Pyrénées) (after Passemard).

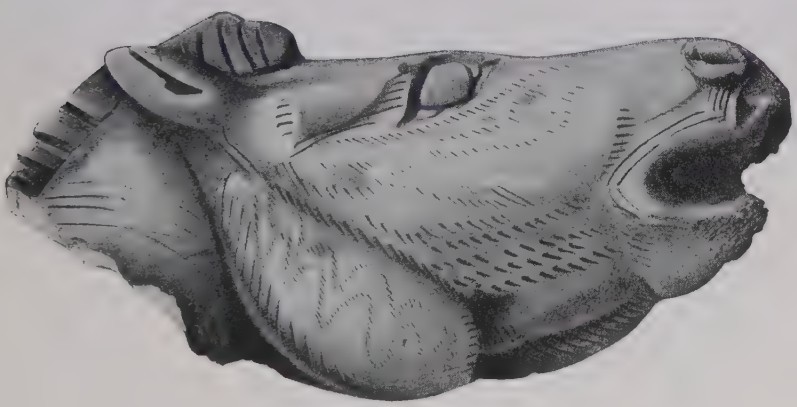

Fig. 23. Head of a horse sculptured in reindeer horn (Cave of Mas d'Azil, Ariège). *Scale:* 2/1 (after Piette).

was not a school of art in the Magdalenian epoch, as has been stated with some exaggeration, there were men who applied themselves to art and even probably professional artists.

However remarkable may be the art of this vast region that we have to study, and despite the high aesthetic value of its masterpieces, one cannot but find it somewhat monotonous. The human figure is rarely represented after the Aurignacian, and then by specimens of which the best are barely passable. On the whole, this art gives the impression of a vast menagerie. The eye is finally fatigued by this interminable procession of animals

Fig. 24. Wild boar hunt. Wall painting in dark red (Val del Charco del Agua amarga, Province of Teruel, Spain). *Scale:* 1/6 (after Obermaier).

Fig. 25. Stag hunt. Wall painting in dark red (Cueva del Mas d'en Josep, Barranco de Valltorta, Province of Castellon, Spain). *Scale:* 1/5 (after Obermaier).

which, save for a few exceptions, are always the same, sometimes executed with a fidelity of attitude that suggests instantaneous photography, but mostly without any care of composition.

Fig. 26. "Sic vos non vobis." Gatherer of honey. Upper portion of a wall painting in red (Bicorp, Province of Valencia, Spain). *Scale:* 1/2 (after Obermaier).

But discoveries following one another almost daily during the last fifteen years have revealed a new province of Paleolithic art which is distinguished by special characters. Its general geographical situation is in the east and southeast of Spain.[35] It has furnished no movable works of art, but solely paintings executed no longer in the obscure depths of vast caverns, but on the walls of shelters and even on rocks in the open air. These productions are certainly contemporary with the Reindeer age in the rest of Europe, although they do not show this animal, the bones of which are very rare here, and with which the climate could not have agreed. But their authors had some partially original aesthetic conceptions. In the present rudimentary state of our knowledge, these appear to have been created by some people called "Capsians," possibly originating from Tunisia. North of the Pyrenees these same people are known as Aurignacians, and were modified in time by the Solutrian and Magdalenian cultural influences while in Spain they followed an almost uninterrupted independent cultural evolution up to the Azilian epoch.

At the beginning of this art one encounters isolated animals in the style of those of the Franco-Cantabrian region. This simi-

[35] Cf. H. Obermaier, *El Hombre fosil* (2d ed.; Madrid, 1925), Chap. VII.

larity can be explained without reference to the influence of one region on the other by the same tendency to realism which could have come into being independently on both sides of the Pyrenees. In any case the originality of Spanish Paleolithic artists manifests itself vigorously in the complexity of scenes full of life and sometimes exhilarated with movement where man is the central figure. They are mainly scenes of the chase (Figs. 24, p. 28; 25, p. 28; 56, p. 72; 57 and 58, p. 74) and of war (Fig. 55, p. 71), sometimes scenes of civil life, if one may use the term. Certain groups seem to represent gatherings, as at Cogul the cluster of nine women around a man which has been interpreted, with perhaps too hasty an imagination, as representing a ritual ceremony (Fig. 116, p. 191). Elsewhere there are scenes of everyday life, for example, the man climbing the length of a cord or vine, from La Vieja (Fig. 60, p. 76) which recalls the engravings on bamboo from New Caledonia, the person climbing a sort of rope ladder to get the honey from a bees' nest while the bees fly about him, painted on a rock at Bicorp (Province of Valencia) (Fig. 26, p. 29), and, finally, the charming group from Minateda of a woman leading a child by the hand (Fig. 81, p. 104). There is here an art at once picturesque and human, entirely unexpected for those early times, and of the greatest interest, as much because of the sentiment which inspired it as through the knowing naïveté of its technique suggesting the forms and attitudes by some simple and almost schematic lines which are, however, full of reality and life.

II.

DECORATIVE ART

DECORATIVE art rests on the idea that artificial modifications applied to preëxistent objects render them more agreeable to the eye. Decoration and personal ornamentation are in consequence essentially kindred, differing only in the nature of the things they modify. Decoration is the finery of a material object, finery is the decoration of the human body.

We shall commence, then, by studying with some detail Paleolithic bodily adornment to which, in my opinion, treatises on prehistory give too scant development.

For personal decoration as for costuming (which last we shall leave aside insomuch as it belongs rather to utilitarian industry than to art proper) the documents are of two sorts: first, the objects of personal decoration actually found in the excavations, and, second, pictures where human beings are represented wearing these ornaments.[1] Only the last-mentioned evidence can give us indications, still very incomplete, on personal ornamentation made from perishable materials which could not be preserved. It is thus that diverse Spanish wall paintings (Charco del Agua amarga, Valltorta, Minateda, La Vieja) (Fig. 117, p. 193) show the use of feathered headdresses analogous to those of the North American Indians.

Certain indications, corroborated by ethnological parallels, point to a probability but not to a certainty that Paleolithic peoples practiced tattooing and body painting. The coloring matter found in abundance in numerous excavations, together with the tools used to grind, powder, and spread it,[2] may have

[1] The feminine statuette from Willendorf (Fig. 2, p. 8) has a bracelet on the forearm. The "Woman with the Reindeer" (Fig. 4, No. 2, p. 12) bears the indication of bracelets and a necklace.

[2] *Alt.*, pp. 115–121; *F. de G.*, pp. 48–52.

been employed otherwise, either for paintings or, as traces still show, sometimes for engravings and sculptures.[3] Red powder served, according to a rite to be studied later,[4] to cover the bodies of the dead and the floors of sepultures. But from the painting of the dead one may not infer that of the living. A category of figures, interpreted at first as human arms exhibiting tattooed marks, are today considered, probably correctly, as conventionalized drawings of the fish.[5]

The most powerful argument in favor of the practice of body painting is based on the engraved or sculptured human figures which bear incised lines seemingly intended to represent it. These are seen on sculptures at Mezine (Ukrania), which appear to be degenerated human figures and which have in the region of the waist and loins geometric decorations, or again the engraving on ivory from Przedmost (Fig. 11, p. 19). But all of these are so highly conventionalized that one must hesitate to base arguments upon them. The rows of incisions on some more lifelike figures, "The Pear" from Brassempouy (Fig. 6, p. 14) and the "Woman with the Reindeer" (Fig. 4, No. 2, p. 12) do not represent tattooing, but the natural hairiness of the body. The fur of animals is indicated in an analogous fashion, not only in numerous specimens of Magdalenian sculpture and engraving, but as early as the end of the Aurignacian on the mammoth worked in ivory from Przedmost (Fig. 27, p. 33). Taking everything into consideration, the practice of body painting in Paleolithic times from the Aurignacian up seems probable, but remains insufficiently established.

But even in observing this prudent reserve, we may say that bodily decoration is incontestably represented from the beginning of the Reindeer age in the form of jewelry, a considerable quantity of which has been preserved. Probably its most simple form consisted of stones which, owing to their form or color, were picked up by wandering hunters and carried back to camp. The utilization of these "gems" remains uncertain when they present no trace of human work. By their natural

[3] Cf. above, p. 9.
[4] Cf. below, pp. 163, 164.
[5] Cf. below, p. 67.

form they might have been suspended, and some were found beside pebbles on which notches had been made expressly for this purpose. This is notably the case in the Solutrian section of Monthaud (Indre).[6]

When natural objects exhibit artificial perforations their intentional utilization is undeniably established. This does not go to say that all perforated objects are jewels, for a perforation is not necessarily a proof of suspension. An object may be designed for pendency without being hung to the human body

Fig. 27. Mammoth. Relief in ivory (Przedmost, Moravia). *Scale:* about 2/3 (Kriz Collection).

as, for example, our kitchen pots in spite of the holes at the end of their handles, and even an object suspended from the human body does not have to be classed as a jewel, but may possibly be an arm or a tool. In leaving aside such instruments as the perforated batons called "batons of commandment," dart

[6] Breuil and Clément, "Un Abri Solutréen sur les bords de l'Anglin," *Mémoires de la Société des Antiquaires du Centre*, XXIX (1906), pp. 11–12 (special edition) and Fig. 3, p. 17.

throwers often having a hole at their extremity,[7] and polishers,[8] certain perforated natural objects seem too large and heavy to have been worn as jewels. Such are the large pebbles which could have been employed as weights on fishing nets. Different javelin points of reindeer horn, notably from Laugerie-Basse[9] and from Lespugue (Fig. 34, p. 42), have at their base a perforation which could have served either to suspend them or to attach them to their shafts by a cord or peg. Some ocher disks with a central perforation seem ill adapted to serve as crayons owing to their form but, on the other hand, recall the pierced bone disks that must have served as jewels. Other pieces of the

Fig. 28. Teeth of carnivora, of reindeer, of horse (A), and a bone of the reindeer (B) pierced with a hole for suspension (Lacave, Lot) (after Viré).

same substance, also perforated or furnished with a head, could have been carried both as crayons from which their owners did not wish to be separated and as colored jewels similar to our coral lockets.[10]

[7] Example: *Rép.*, p. 21, No. 4 (Arudy).

[8] Three intact polishers, all pierced at the base, from the Lower Magdalenian of Placard, one of which measures twenty-five centimeters in length (A. de Mortillet, *Congrès Préhist. de Fr.*, 1896, p. 256); blade in the shape of a paper cutter from Lespugue (Rideaux Cave) cut out of a long bone the medullary canal of which has been purposely enlarged into an oval (R. de Saint-Périer, *L'A.*, XXXIV (1924), p. 7, Fig. 3).

[9] Girod and Massénat, *Laugerie-Basse*, Pl. LXXI, No. 5, and Pl. LXXII, Nos. 5, 7, 9.

[10] *Alt.*, p. 116, nn. 1, 2. *F. de G.*, pp. 50–51, and Fig. 28, p. 34.

Whatever the truth may be, one must consider as jewels the perforated teeth (Fig. 28, p. 34, and Fig. 30, p. 37) and shells found in great numbers in so many stations (one could more or less say in all stations), that it would be tedious to enumerate them, even summarily. It will be more useful to note in passing that certain shells of an origin far removed from the excavations where they were found argue either wide migrations of the Paleolithic hunters or commercial relations.[11]

Paleolithic peoples also transformed fish vertebrae[12] and bones into jewels by passing a cord through their spinal canal or by making artificial perforations (Fig. 28, p. 34).[13] Perforated pebbles must have been devoted to the same use (Fig. 29, p. 36).[14]

But, from an ancient epoch, man was not content to pierce for suspension solely the objects that nature presented to him ready-made. Out of ivory, bone, or reindeer horn, the materials of which his tools and arms were made, he fashioned some pieces which we can best compare with the tubular beads of funerary wreaths and the beads of our necklaces (Fig. 30, p. 37). The Abri Blanchard (Middle Aurignacian) has yielded not only a notable quantity of reindeer horn and ivory beads,

[11] Chiefly some Mediterranean shells (*Cypraea lurida, C. pyrum, Nassa gibbosula*) found at Laugerie-Basse, and the marine shells found in the sections of the Haute-Garonne (Gourdan, Lespugue, etc.), about two hundred kilometers as the crow flies from both the Mediterranean and the Atlantic.

[12] Two pierced fish vertebrae (genus *Salmo?*) at the Grotte Rey. Rivière, *AFAS* (Caen, 1894), II, 715 and Pl. X, No. 13.

[13] Bruniquel (Montastruc), some bird bones pierced at one of their extremities (Peccadeau de L'Isle), *Rev. Archéol.*, I (1868), 217; Bruniquel (Grotte des Forges), a small bone that could have been strung, decorated with lines, and some little perforated bones (Cartailhac, *L'A.*, XIV (1903), 306, Figs. 110, 111); Combarelles, pierced bone from the extremity of a bird (*Aquila* sp.) (Rivière, *AFAS*, II (1894), 71, Pl. X, No. 11); Grotte Rey, a very small, long, and thin clavicle, flattened and pierced with a round hole at each end (Rivière, *AFAS*, II (1894), 716); Le Placard, levels of the Lower Magdalenian, stylets from the foot or horn of the reindeer, more or less cut out and pierced with a hole (A. de Maret, *Congrès Archéol. de Fr.* (Vienna, 1879), pp. 171–172).

[14] Laugerie-Haute (Solutrian), an ovoid pebble in red schist pierced at its narrowest extremity (L. Giraux, *Bull. Soc. Préhist. Fr.*, IV (1907), 215 and Fig. 5). Altamira (probably Lower Magdalenian), schist plaque with hole for suspension (*Alt.*, p. 2). Laugerie-Basse, divers perforated stones (Girod and Massénat, *Laugerie-Basse*, Pl. LXXXI).

but also pieces that permit the reconstitution of their technique of manufacture.[15]

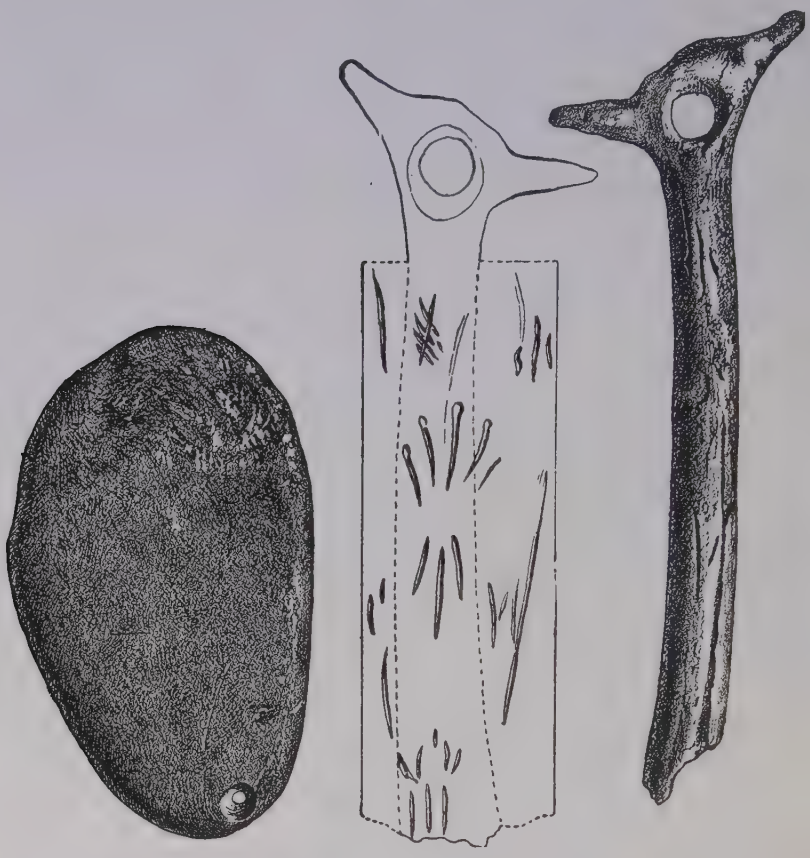

Fig. 29. Perforated reindeer-horn baton with its engravings shown unrolled. (*Scale:* 1/3), and schist pebble perforated for suspension (after Viré).

Among these entirely artificial pendants, special mention is due to those which are imitations of natural objects utilized as jewels, such as teeth[16] or shells.[17]

[15] L. Didon, *L'Abri Blanchard, Périgueux,* 1911 (Extract from *Bull. de la Soc. Histor. et Archéol. du Périgord*), p. 35.

[16] As examples of imitation teeth, invented at a very early epoch not by dentists but by jewelers, we may cite several in ivory, chiefly of the fox, found together with some real pierced teeth at Pair-non-Pair (Middle Aurignacian), and divers imitations of the canines of cervidae, one in ivory, larger than nature, from Monthaud (Indre) (typically Solutrian) (Breuil and Clément, "Un Abri

Divers pendants are reproductions, some perhaps of fruits,[18] others certainly of insects.[19] This suggests that the Paleolithic peoples, as do modern savages, used for bodily decoration natural objects and perhaps flowers and leaves, along with shells and teeth.

Then the jeweler freed himself from the simple reproduction of natural objects formerly employed as pendants. Already in the Middle Aurignacian at Paviland and Spy[20] ivory pend-

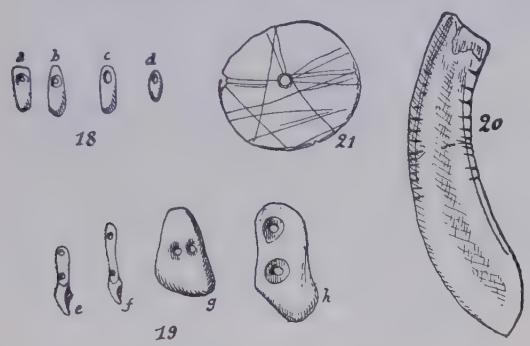

Fig. 30. Stone beads (18), perforated animal teeth (19, 20), and a perforated bone disk (21) (Abris du Château, Bruniquel, Tarn-et-Garonne). *Scale:* 2/3 (after Cartailhac).

Solutréen, etc.," *op. cit.*, Fig. 12, No. 10), one from Placard (Lower Magdalenian) (A. de Mortillet, *Congr. Préhist. Fr.* (Vannes, 1906), p. 261), several from the Magdalenian Grotte du Mammouth (Poland) (A. de Mortillet, *Bull. Soc. Préhist. Fr.*, IV (1907), 215–216), one in bone from the Grotte des Harpons at Lespugue (Upper Magdalenian) (R. de Saint-Périer, *L'A.*, XXX (1920), 220 and Fig. 2, No. 3).

[17] An ivory ring from Pair-non-Pair carries by way of a setting a cowrie worked in the same piece. A similar ring, but more worn and lost since, was found at La Chaise and published by Abbé Bourgeois. From Laugerie-Basse came a broken Cardium shell in reindeer horn with a hole for suspension (Girod and Massénat, *Laugerie-Basse,* Pl. LXXIX, No. 15). A pendant in ivory, seven centimeters long, from the Grotte des Bœufs at Lespugue (Lower Magdalenian) could be an imitation of the Turritella (R. de Saint-Périer, *Les Grottes de Lespugue et de Montmaurin* (Saint-Gaudens, 1921) (extract from the *Revue de Comminges*), p. 15, and Fig. 4, No. 7).

[18] A pendant from the Abri Blanchard much resembles a hazelnut (Didon, *op. cit.*, Pl. VI, No. 11).

[19] Such are, passing over a few less clear specimens, a lignite Buprestidan from the Grotte du Trilobite (Lower Magdalenian) (*Rép.*, p. 20, Nos. 10–11), and two ladybugs in ivory, the first from Laugerie-Basse (*Rép.*, p. 116, Nos. 10–11) and the other from Cap-Blanc.

[20] *Grim.*, II, 304.

ants in the form of beans may have been meant to represent the human body in profile in an extremely schematized form. In any case one finds from the beginning of the Lower Magdalenian horses' heads with cut-out contours, provided with a hole for suspension.[21] I am inclined to range in the same category of sculptured jewels the magnificent piece of ivory from Mas d'Azil (Lower Magdalenian)[22] sculptured with wild goats and ramiform incisions, which may be considered as a pendant in spite of its size and weight. It has, besides, two perforations, one in part broken at its pointed extremity, the second smaller and

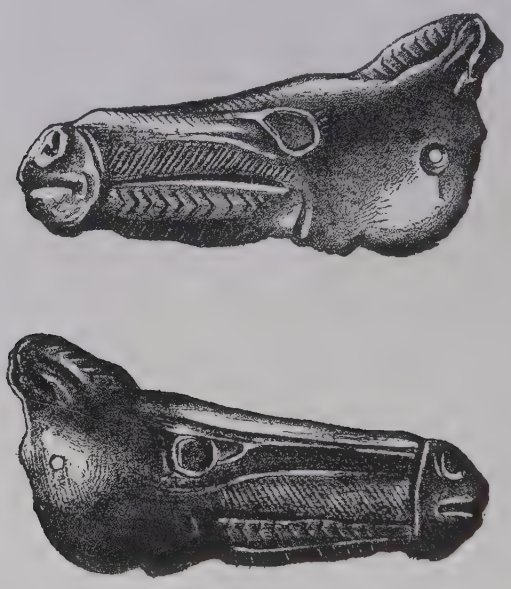

Fig. 31. Head of Equidae. Pendant of cut-out contours in the gill bone of the salmon (Brassempouy, Landes). Actual size (after Piette).

[21] Engraved bones with cut-out contours nearly all have a hole for suspension (Piette, *L'A.*, XVII (1906), 44), notably the head of a horse in cut-out contours in salmon bone from Brassempouy (Lower Magdalenian) (Fig. 31, p. 38); from Mas d'Azil a jet head in cut-out contours (*Rép.*, p. 155, No. 8), another in bone (Fig. 32, p. 39), a protome in bone (*Rép.*, p. 153, Nos. 3, 4), a phalanx carved into the head of a horse (*Rép.*, p. 149, Nos. 7–9); from Isturitz the head of a horse cut out in bone (Passemard, *Rev. Archéol.*, I (1922), 34, Fig. 30); from the Abri de la Garenne at Saint-Marcel (Indre) a splendid head of a horse with cut-out contours in flat bone and of which the nose furnishes a hole for suspension (Fig. 33, p. 40).

[22] *Rép.*, p. 153, Nos. 1 and 2.

near the other end, which seem to indicate hesitation or difficulty relative to its mode of suspension.

Divers modes of suspension are applied to both fabricated and natural pendants. These consist of lateral symmetrical notches,[23] a groove around one extremity,[24] and chiefly perforation.[25] The last-mentioned mode of suspension is attained by various methods. Sawing is applied usually to cowries,[26] but generally, for the valves of shells, teeth, pieces in bone and stone, and even in the Magdalenian needles, the perforation was

Fig. 32. Head of a Horse. Bone pendant of cut-out contours (Grotte de Mas d'Azil, Ariège). Natural size (after Piette).

done by piercing two conical holes on each side of the object. The convergence of these two drillings made the necessary opening, a process which is frequently witnessed in objects where the two cavities were so directed that they did not meet exactly.[27]

To string these pendants, the Paleolithic peoples may have used vegetable stems sufficiently long, thin, supple, and strong. But it is probable that they generally employed, as do the

[23] Example: a portion of red jasper from Monthaud (Indre) (Solutrian) (Breuil and Clément, *op. cit.*, Fig. 3, No. 1).

[24] Example: a point of Belemnitella from the Solutrian of Laugerie-Haute (Giraux, *Bull. Soc. Préhist.* (Fr.), IV (1907), p. 214, and Fig. 4).

[25] H. Fischer, "Notes on Shells," *L'A.*, VII (1896), 696–698.

[26] Examples: a *Nassa neritea* of the Abri Blanchard (Didon, *op. cit.*, Pl. VI, No. 28); one of the cowries which decorated the skeleton of the "Crushed Man" of Laugerie-Basse (Mortillet, *Musée Préhistorique*, 2d ed., No. 189).

[27] Example: a perforated pebble from Laugerie-Basse (Girod and Massénat, *Laugerie-Basse*, Pl. LXXXI, No. 3).

modern primitives possessing the animal (Laplanders and Eskimos), the sinews of the reindeer. Their intestines furnish gut, but it is chiefly from their skeinlike tendons that one can detach cords down to the finest threads. In Paleolithic stations, numerous cannon bones of the reindeer are found exhibiting at the lower extremity manifest traces of cutting which prove that the Paleolithic peoples detached the big tendons intersecting at this point.[28] They also had at their disposition horse hair, or, without looking farther, human hair.

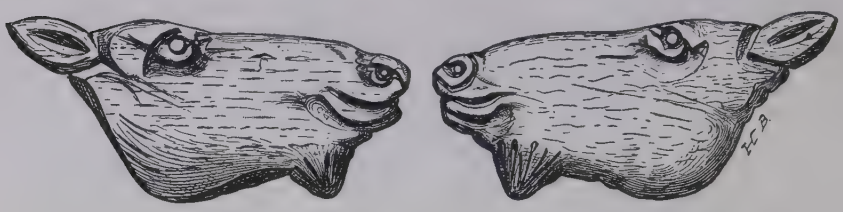

Fig. 33. Head of a horse. Bone pendant with cut-out contours (Saint-Marcel, Indre). Natural size (after Breuil).

Pendants are not the only objects of bodily decoration employed by the Paleolithic peoples. Transverse sections of mammoth's tusks forming rings, from Brassempouy and from Spy (Middle Aurignacian),[29] from Paviland,[30] from Placard (Upper Solutrian),[31] or simply circlets sawed in the diaphysis of long bones[32] furnished rings and bracelets, according to their diameter.

Judging from their form and thinness, certain objects in bone that could be interpreted as bodkins, poniards, or javelin points, appear too delicate for such uses and are better considered as hairpins. The specimen found on the forehead of the skeleton of Cavillon is incontestably such,[33] and justifies this

[28] Girod and Massénat, *Laugerie-Basse*, p. 75.

[29] Breuil, "L'Aurignacien Présolutréen," *Revue Préhist.*, 1909, p. 18 of the special edition.

[30] Fragments of ivory rings, eleven to twelve centimeters in diameter, found near the Aurignacian skeleton (*Grim.*, II, 305).

[31] A. de Mortillet, *Congrès Préhist. de Fr.* (Vannes, 1906), p. 253.

[32] Example: Verneau, *L'A.*, III (1892), 524, Fig. 11 (Barma Grande).

[33] The photograph reproducing our Fig. 107, p. 175, does not give this position of the pin; it will be found in *Grim.*, Vol. II, Pl. I, No. 1.

interpretation. From the Aurignacian, metacarpals are found, sharpened at one end, while the prominence of the articulation at the other acts as the head. Similar objects, entirely artificial, were intentionally furnished with a head.[34]

One may attribute a like use to certain straight or slightly curved reindeer-horn rods sharpened at both extremities, belonging in the Magdalenian, and chiefly noted at Laugerie-Basse.[35] I would place in the same class a similar piece from the Grotte des Harpons at Lespugue (Fig. 34, p. 42) in spite of the perforation at one end. This hole could either have served as a place to fix a peg acting as a catch, or to support a pendant.

Some objects, comparatively rare, might be considered as belt buckles or, perhaps better, pieces to fix the end of leather thongs. Such is the ivory pistilliform specimen found at Brassempouy, decorated with a relief on its convex side.[36] The thongs would have been sewn around its middle corrugation. Seven trefoiled pieces from Placard (Lower Magdalenian) may have had the same use. The branches of these terminate in divergent points by which they might have been held in the leather.[37] Finally, minute objects in reindeer horn, ivory, or bone, recall in the small the bobbins of the child's game called "diabolo" and seem allied to the objects in "double-olive" form from Barma Grande, which we shall mention later. These could have been attached around their central constriction and employed similarly to the olive-shaped buttons of our fur coats or our cuff links.[38]

If the use of many of these objects remains more or less conjectural, it is unmistakable for those discovered in sepultures[39] which not only inform us as to their utilization but, in addition,

[34] *Grim.*, Vol. II, Pl. XX, Nos. 12–14 (Grotte des Enfants); a similar object carved out of a wolf's metacarpal has been found beside the Aurignacian skeleton of Paviland (*Grim.*, II, 304); *Grim.*, II, Figs. 150, 151 (Gorge d'Enfer, Dordogne).

[35] Girod and Massénat, *Laugerie-Basse*, Pls. LXXXIX–XC. Cf. a similar piece from Bruniquel (Mortillet, *Musée Préhistorique* (2d ed.), No. 228).

[36] *Rép.*, p. 31, No. 3.

[37] Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 23, Nos. 7 and 8.

[38] Examples from Laugerie-Basse, Dordogne; Girod and Massénat, *Laugerie-Basse*, Pl. LXXIX, Nos. 13*a* and *b*; Mortillet, *Musée Préhistorique* (2d ed.), No. 190.

[39] Cf. below, p. 158.

give us some details on the complex personal adornment of which they were elements. We have already spoken of the hairpin found on the skull of the man of Cavillon. His head was covered, besides, in the temporal regions, with more than two hundred nassa shells and twenty-two canines of the stag, all perforated. These must have constituted a headdress similar to those still worn by the fisher folk in certain parts of Italy. The skeleton had also below the knee a circlet of nassas.[40] On the skull of the young negroid man interred in the Grotte des Enfants were three rows of perforated nassas (*Cyclonassa neritea*) which must have formed a sort of crown (Fig. 106, p. 174). The old woman interred beside him had two bracelets made of the same shells, one above the left wrist, and the other, of two rows, still held together by a solid matrix on the humerus above its lower extremity. The male skeleton encountered in the hearth seventy centimeters above the two previously mentioned had a quantity of perforated nassas in his left side. They had probably belonged to a necklace or a kind of breastplate. A small number of the same shells and a few teeth of the stag found isolated at the side of the head and under the mandible could have belonged to another necklace or to a diadem.[41] The two children to whom this cave owes its

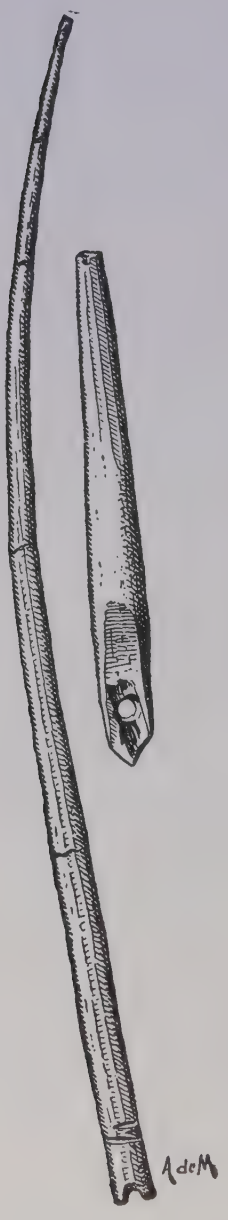

Fig. 34. Hairpin(?) and javelin point with perforated base, in reindeer horn (Grotte des Harpons at Lespugue, Haute-Garonne). *Scale:* 3/4 (after R. de Saint-Périer).

[40] *Grim.*, II, 31, 289.
[41] *Ibid.*, 29–30.

name were found together with about a thousand perforated nassas belonging "to a belt or loin-cloth composed of shells, extending in both cases from the umbilicus over the upper third of the thighs, and covering entirely the pelvis and the lumbar region."[42]

At Baousso da Torre the man encountered at a depth of three meters ninety centimeters had about his head numerous perforated shells and teeth of the stag. He wore a necklace composed of canines of the stag and 162 shells, while at the level of the elbows and left wrist bracelets were found (at the right elbow, twenty-five nassas, one *Cypraea lurida,* one *C. pyrum,* one *Cerithium;* at the left elbow, nineteen nassas and one *C. pyrum*). Two *C. lurida* found on each side and a little below the big trochanters could have been hung from a belt. The man found fifteen centimeters above the last mentioned had, below the clavicle, one *C. pyrum* and two nassas which may have belonged to a necklace and wore bracelets above the elbows (a stag tooth and some shells at the right elbow) and at the wrists (nassas and a *Cypraea* at the right wrist, twelve nassas, a *Cypraea* and a *Buccinum* at the left). Shells of the same sort were found at each side near the femoral condyles.[43]

The personal ornaments of Baousso da Torre comprised more varied and larger shells (*Cardium, Cypraea, Buccinum, Cerithium*) than nassas, the latter being alone represented in the Grottes du Cavillon and des Enfants. At Barma Grande fish vertebrae and artificial pendants were also found with the shells and teeth. In the triple sepulture, the male skeleton which lay in front of the other two wore on its head perforated nassas, fish vertebrae pierced in the middle partition, and canines of the stag perforated and ornamented with parallel grooves on the enamel. On the frontal were some pretty little ivory pendants. These were plane on one side, but presented, on the other, below an undecorated surface with a hole for suspension, a hemispherical portion ornamented with a series of parallel lines delicately engraved. He also wore a necklace of these same pendants, fish vertebrae, and fourteen teeth of the stag.

[42] E. Rivière, *De L'Antiquité de l'Homme dans les Alpes Maritimes* (Paris, 1877), p. 119, and Pl. XIII.

[43] *Grim.,* II, 32, 299.

At the level of the thorax were found similar hemispherical pendants, perforated salmon vertebrae, and a bone object in the form of two olives put end to end so that the median constriction permitted suspension without piercing. The whole surface of this piece is covered with little parallel grooves arranged in rows. Lastly, the skeleton wore at each side of the left tibia a large perforated shell (*Cypraea millepunctata*) which must have been strung as a sort of garter.[44] The female skeleton found beside the preceding one wore on the skull nassas and perforated fish vertebrae together with one hemispherical bone pendant. On the breast was another bone pendant in the form

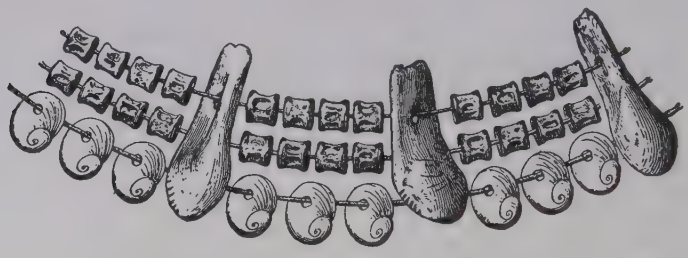

Fig. 35. Necklace of the young man of the triple sepulture of Barma Grande (Fig. 108). *Scale:* 3/4 (after Verneau).

of the "double olive," fifty-five millimeters in length and eighteen millimeters at its greatest width. The young man interred behind this woman had his head covered with fish vertebrae and nassas. Several hemispherical pendants were found on the forehead, while near him at the level of the neck was a "double-olive" ornament similar to those of his neighbors. A clay deposit had preserved his necklace in its original position. It was formed by three parallel rows, the upper two composed of fish vertebrae and the lower of nassas. At regular intervals of four vertebrae and three nassas, a canine of the stag, strung on the superior row, cut the other rows vertically (Fig. 35, p. 44).

Of the two skeletons found a little higher than the triple sepulture, the first had a necklace of nassas and on his head more of the same shells of which a few were yet stuck to the forehead. It possessed also perforated stag teeth and hemispherical ivory pendants. These averaged twenty millimeters in

[44] *Grim.*, II, 33, 298, and Fig. 4, p. 12.

length, fifteen millimeters for the diameter of the hemispherical part, and twelve millimeters at their greatest width. The second skeleton, its bones carbonized, was accompanied with nassas.[45]

The Aurignacian skeleton of Combe-Capelle was also adorned with marine shells.[46] At Cro-Magnon, almost three hundred perforated shells were gathered among the bones, chiefly *Littorina littorea,* and several round or oval ivory pendants pierced with one or two holes.[47] The "double-olive" ornament of Barma Grande has also been discovered, this time in ivory, in the sepulture of Paviland and in that of Przedmost where a skeleton of a child wore a necklace formed of fourteen of these pendants. Similar ornaments have been found, not accompanying a body, in the Middle Aurignacian level of Spy.[48] Beside the skeleton of Brünn were more than six hundred pieces of a fossil shell, *Dentalium badense,* originating a few kilometers away from the sepulture. These formed conical tubes still partially inserted one into another, and could have constituted a sort of breastplate.[49]

Magdalenian sepultures have also yielded some ornaments in place, but generally more simple than those of the Aurignacian epoch. Passing over a pierced stag tooth which accompanied the skeleton of Hoteaux,[50] we shall chiefly mention eleven perforated incisors of young ruminants found at Laugerie-Basse under the head of a child, and which had probably once constituted a necklace,[51] forty canines of the bear and three of the lion found near the skeleton in the Abri Duruthy, at Sordes, almost all of them having been carefully pierced, and twenty of which were decorated with remarkable engravings (Fig. 36, p. 46). These "were divided in two groups unequally distant from the skull as if one had constituted a necklace and the other a belt."[52] Finally, on the body of the "Crushed Man" of Laugerie-Basse were scattered shells of two sorts of Mediterranean cowries also

[45] *Grim.,* II, 32–33.
[46] Boule, *Les Hommes Fossiles* (2d ed.), p. 273.
[47] *Ibid.,* p. 304; *Reliquiae aquitan.,* p. 70.
[48] Boule, *op. cit.,* p. 310.
[49] Obermaier, *Der Mensch der Vorzeit,* Pl. XXIII, No. 2.
[50] Boule, *op. cit.,* p. 269.
[51] Girod and Massénat, *Laugerie-Basse,* Pl. LXXIX, No. 9.
[52] Boule, *op. cit.,* p. 266.

encountered at Baousso da Torre (*Cypraea lurida* and *C. pyrum*) perforated with a transverse incision. There were four on the forehead, two at each elbow, two below each knee, and two on each foot.[53]

We cannot leave the subject of Paleolithic jewelry without calling attention to the sense of symmetry and rhythm which is witnessed in the already complicated and clever arrangement of the necklace found on the young man of Barma Grande, in spite of the simplicity of its material. The same characteristics are found in the more simple composition of a necklace coming from the Lower Magdalenian of Placard, where six pierced

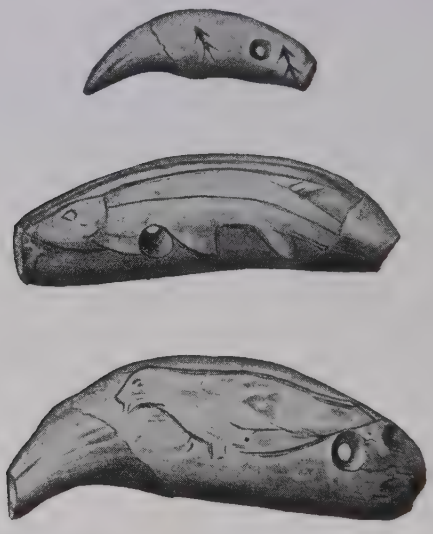

Fig. 36. Teeth of the bear, decorated with engravings (arrows, fish, seal) and pierced with a hole for suspension (Grotte Duruthy, near Sordes, Landes) (after L. Lartet).

fossil shells (*Sismundia occitana*) alternate with five *Natica*.[54]

Once conceived and executed for the ornamentation of the human body, jewels in their turn became movable objects susceptible to decoration as are tools. In fact, in the Paleolithic epoch jewels received ornamentation absolutely similar in character and evolution to that of tools and arms. From this

[53] Cartailhac, *La France Préhistorique*, p. 110.

[54] A. de Maret, *Congrès Archéol. de Fr.* (Vienna, 1879), p. 173.

point of view decorative art can be studied as a whole, without considering the nature of the embellished object.

Decoration thus understood appeared as early as in the Lower Aurignacian. In its most rudimentary form it consisted of notches on the edges or incisions on the surface of the ornamented objects. These are disposed in a more or less regular fashion in parallel series, continuous or separated by intervals. One could mention numerous examples, spread over the whole duration of the Reindeer age, but we shall restrict ourselves to a mention of that which is perhaps the most ancient: a tooth of the lion from Pont Neuf (Charente). The incisions are at first transverse to the main axis of the decorated surface. Then, from the Middle Aurignacian, they are found also disposed obliquely. At about the same epoch appear alignments of punctuations[55] which recall the series of points or disks painted on the walls of the Lower Aurignacian caves. In comparatively rare cases oblique lines are disposed in an inverse direction, forming chevrons, or the "wolf-tooth" design. As to more complex decoration, one has little to mention but some more or less regular undulating reliefs on a conical object and a pendant from Brassempouy, both in ivory,[56] some enclosed chevrons and bands of lozenges on a piece of schist from Barma Grande, and a complicated ornamentation in irregular lines on a steatite pebble from the same place.[57]

Receiving prominence from its rarity is a decorative design found only at Mézine (Ukrania) which, in its most finished form, consists of a continuous fretwork.[58] It is very probable that this design was the fortuitous discovery of a single artist. The comparison of various pieces of this origin, and particularly of fragments of a bracelet, suggests that its decorative motive was a series of zigzag lines disposed parallel to the sides. But it appears that, for the sake of convenience, the artist traced these zigzags successively or alternately the length of

[55] Examples: Didon, *op. cit.*, Pl. VI, Nos. 10, 11 (Abri Blanchard); *Rép.*, p. 82, No. 2 (Gorge d'Enfer).

[56] *Rép.*, p. 31, Nos. 3, 6.

[57] S. Reinach, *L'A.*, IX (1898), 28–29, and Figs. 1, 4.

[58] Cf. L. Tchikalenko, *Study on the Evolution of Geometric Ornamentation in the Paleolithic Epoch* (in Ukranian, with a summary in French) (Prague, 1923).

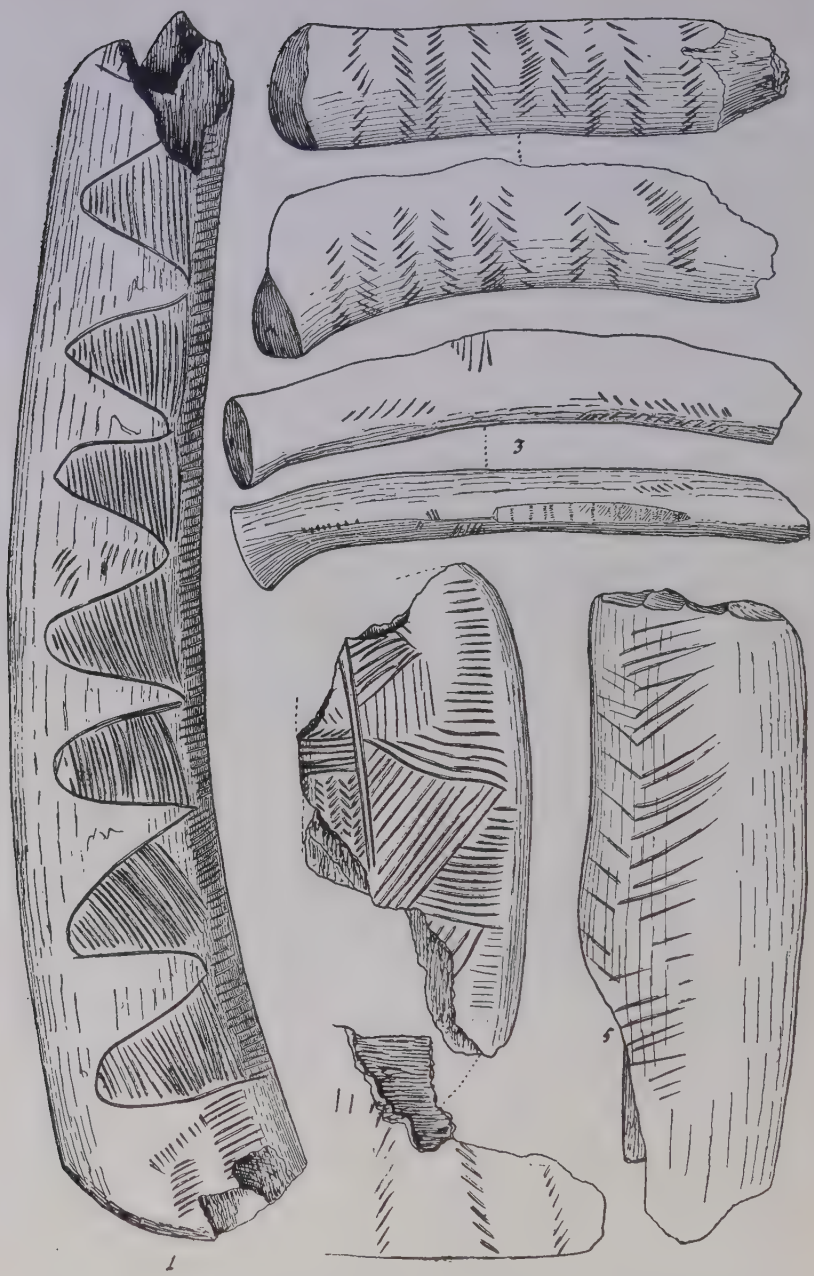

Fig. 37. Ribs of the mammoth, ornamented with geometric designs (Przedmost, Moravia). *Scale:* 1/2 (after Breuil).

each side in turning the object 180 degrees. He could have also traced all the lines of the same direction, and afterward reunited them by obliques in the opposite direction. However this may be, when the zigzags arrived in the neighborhood of one another, that is to say in the middle of the surface, the salients and the reëntrants converged irregularly, giving place to di-

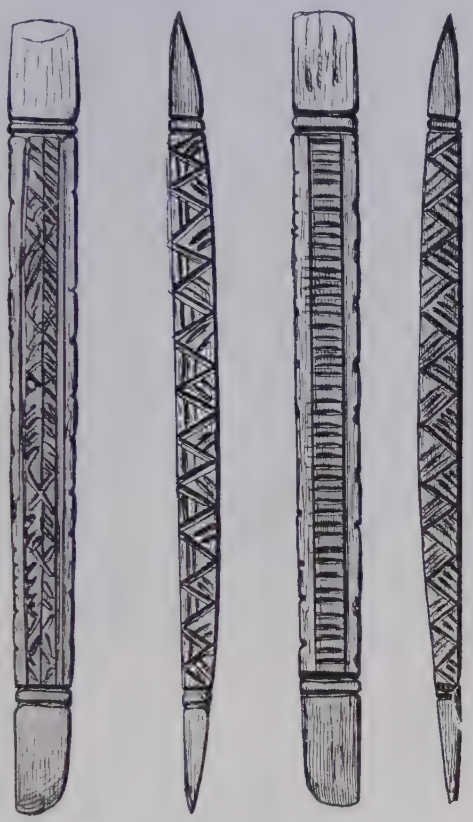

Fig. 38. Double chisel in bone (Saint-Marcel, Indre). Natural size (after Breuil).

verse combinations. The principal ones were the following: when the salients of one line corresponded to the reëntrants of the other, it resulted in zigzag lines parallel to the inclosed chevrons. When two opposed chevrons met at their summit, a lozenge resulted. Finally, when the teeth of one series of zigzags fell between the salients and the reëntrants of the zigzags

of the opposed series, their ensemble gave a fret. The artist would have remarked this new motive, isolated it from the ensemble, and made it the element of a continuous decoration.

Fig. 39. Batons bearing the curvilinear decoration, and a disk-shaped pendant in reindeer horn (Grotte des Harpons at Lespugue, Haute-Garonne). Natural size (after R. de Saint-Périer).

Whatever may be its origin, the Mézine motive has not been encountered elsewhere (Upper Aurignacian), and if in eastern

Europe, as notably at Przedmost, rectilinear geometric decoration presents rather complicated forms (Fig. 37, p. 48), in western Europe, throughout the Reindeer age, it has not surpassed the very simple motives mentioned above. For the frequency of its employment as well as for the finish of its execution, geometric decoration attains its apogee in the Upper Solutrian. Its use is continued throughout the Magdalenian up to the Azilian period, although much more rarely. Save for the pretty specimen from Saint-Marcel (Indre) (Fig. 38, p. 49) it is in manifest regression and, eclipsed by two other highly developed forms of decoration, is reduced to the rôle of filling in unoccupied surfaces.

The first, limited to restricted epoch and region, is the curvilinear decoration encountered in the Lower Magdalenian in the Basses-Pyrénées (Arudy,[59] Lourdes,[60] Isturitz[61]), and the Haute-Garonne (Lespugue) (Fig. 39, p. 50). It is always on reindeer horn and, judging from the most complete examples, on round or semi-round batons, the latter fastened together on their flat faces. The motives, so deeply engraved as to make them stand out in relief, are composed of ellipses, circles (sometimes centered), simple spirals or *S* spirals. From the limitation of its area of dispersion, this style appears to have originated with one group or tribe and never to have developed into a school.

Contrary to curvilinear decoration, figured decoration is more widely spread, although, with but a few exceptions, its area of dispersion is limited by the Loire, the Rhône, and the Pyrenees. It is found throughout the duration of the Magdalenian both on pendants of various form and material (Fig. 36, p. 46; Fig. 40, p. 52; Fig. 41, p. 52; Fig. 42, p. 53)[62] and on tools. Among these we shall chiefly note the sandstone lamp

[59] *Rép.*, p. 22, No. 4; p. 23, Nos. 7–10.

[60] *Ibid.*, p. 136, Nos. 1 (or 6), 2, 4, 5, 8–10, 12.

[61] Passemard, *Bull. Soc. Préhist. de Fr.*, XVII (1920), 150.

[62] Other examples: protome of a horse engraved on a pebble perforated at one of its extremities, from Laugerie-Basse (*Rép.*, p. 102, No. 7); hindquarters of a reindeer on a fragment of a bone pendant from Laugerie-Basse (*Rép.*, p. 111, No. 5); a cervidae engraved on a long perforated pebble from La Madeleine (*Rép.*, p. 141, No. 4); two pendants from Liveyre (Dordogne) (*Rép.*, p. 124, Nos. 1–3).

from La Mouthe which has its interior decorated with an engraving of a wild goat;[63] second, the perforated batons. These implements, called "batons of commandment," are the most

Fig. 40. Glutton engraved on a reindeer-horn pendant, from a cave of the Dordogne (British Museum, Christy Collection) (after Breuil).

richly decorated objects of the Reindeer age. For this reason their use remains still enigmatical. It may not have been the same in all cases, and it was probably not exclusively utilitarian in the restricted sense of the word. Without speaking of the heads sculptured on certain examples to which we shall refer

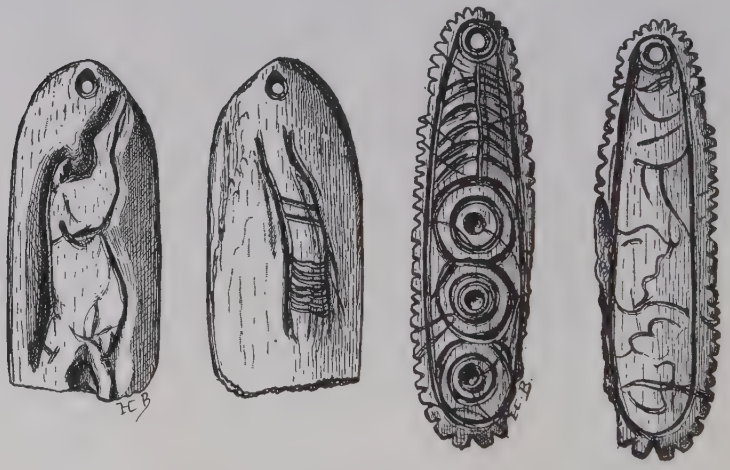

Fig. 41. Two pendants in bone (Saint-Marcel, Indre). Seen from both faces. Natural size (after Breuil).

later, they are ornamented with engravings or reliefs, some of which almost pass into the realm of sculpture. This is notably the case with the affronted heads which recall those of cut-out contours (Fig. 43, p. 54).[64]

[63] *Rép.*, p. 159, No. 6.

[64] Cf. horses' heads (Mas d'Azil; *Rép.*, p. 149, Nos. 1, 2).

Whatever may be the objects to which figured drawings are applied, the motives and method of treatment are the same in engravings executed on bone or stone, apparently devoid of any

Fig. 42. Wild goats and alphabetiform signs engraved on a cannon bone of the reindeer (Grotte de Mas d'Azil, Ariège). Seen from both faces, natural size (after Breuil).

practical use and thus bordering on "independent art" and in painted or engraved wall art. From this point of view it is sufficient to await what will be said of drawn figure art in gen-

eral in the following chapter. We shall limit ourselves here to particular examples showing on the one hand the appearance of figure decoration besides the rectilinear geometric motive in the Lower Magdalenian; on the other hand, the survival of the latter style although in an inferior state during the whole of the Magdalenian.

Fig. 43. Affronted heads of the reindeer sculptured on a perforated reindeer-horn baton (La Madeleine, Dordogne). Natural size (after Breuil).

The transition from the simple linear ornamentation to figured ornamentation is particularly clear in the Lower Magdalenian levels of Placard.[65] Besides the notches and incisions in parallel rows similar to those of the more ancient epochs, but in certain cases lengthened and diversely directed, veritable figures were found there. Some are yet constituted by series of notches or punctuations, but their intention to represent figures is incontestable (chiefly serpents, fish, reindeer horns). Others, notably the heads of animals, have the silhouette traced at least partially by a continuous line. Aligned punctuations were still used to represent the hair while numerous examples of the same

[65] Breuil, "Paléolithique Supérieur," *op. cit.*, Figs. 17, 18, 20, 21, 22.

interpretation are found in the more recent stages of the Magdalenian.

To illustrate the simultaneous employment of figure and linear ornamentation we shall specially refer to a category of objects consisting of more or less regular thin disks in bone or reindeer horn. These are pierced in the center and are probably buttons.[66] Some do not bear any decoration (Fig. 39, p. 50).[67] Others are ornamented either by lines in every direction (Fig. 30, p. 37)[68] or by straight parallel lines, or again by combinations of parallel lines radiating from the central hole.[69] An

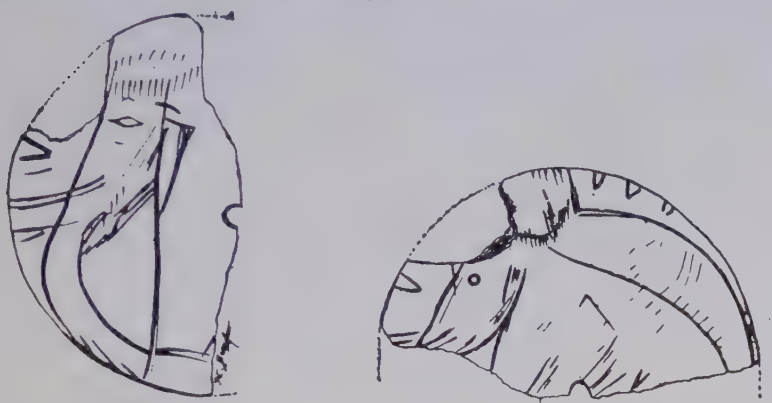

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Fig. 44. Fragment of a perforated bone disk with engravings of the mammoth (Raymonden, Chancelade, Dordogne). Seen from both faces, natural size (after Breuil).

incomplete bone disk from Laugerie-Basse bears on one face the hindquarters of a bison, on the other a linear decoration.[70] Two bone disks, one entire, from Laugerie-Basse,[71] the other from Chancelade, of which there remains but one half (Fig. 44, p. 55), are ornamented on each face by an animal, a chamois

[66] Cf. Piette, *L'Art pendant l'Age du Renne,* Pl. XC, No. 6, a shoulder blade from Arudy from which three such disks were cut out.

[67] Another example at Enlène (Bégouen, *L'A.*, XXIII (1912), 289).

[68] Cf. Rivière, *AFAS* (Caen, 1894), Vol. II, Pl. X, No. 3 (Combarelles).

[69] Bruniquel (Montastruc) (Peccadeau de l'Isle, *Revue Archéol.*, I (1868), 217); Gourdan (*Rép.*, p. 89, No. 5); Laugerie-Basse (*Rép.*, p. 118, No. 7).

[70] Girod and Massénat, *Laugerie-Basse,* Pl. XXI, No. 6 (*Rép.*, p. 105, No. 1, gives but the face decorated with a figure).

[71] *Rép.*, p. 106, Nos. 5, 6.

on the first, a mammoth on the second. In both, the decoration is completed by small-spaced chevrons forming a border.

Decoration is not limited to ornaments engraved more or less deeply on the surface of objects, but consists also of modifica-

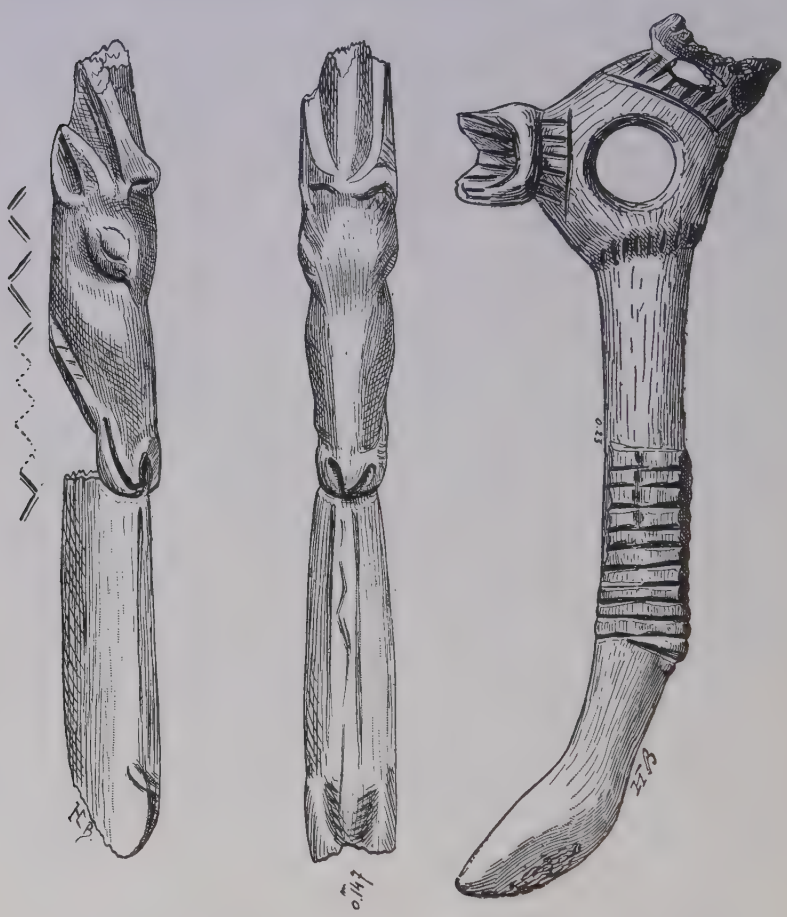

Fig. 45. Objects sculptured in reindeer horn (Laugerie-Basse, Dordogne). To the left, front and side view of a dart thrower with head of a cervidae. (*Scale:* 3/4.) To the right, a perforated baton. (*Scale:* 1/2) (after Breuil).

tions applied to their general form by sculpture. This sort of ornamentation does not embrace those jewels composed of natural objects (teeth, shells, and pebbles) utilized as such, a perforation alone being added, but comprises artificial jewels

fashioned in bone, of a solely aesthetic rôle, as the form the artist gave them depended entirely on his fancy. Nor does it apply to objects of use (tools and arms), for the artist's modifications are limited by the general form imposed on them. In

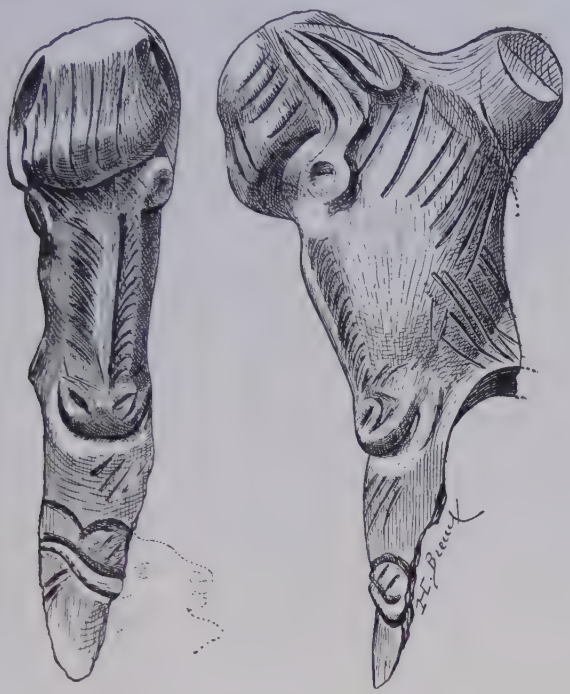

Fig. 46. Broken top of a "baton of commandment" exhibiting the head of a bison; lower down a light bas-relief of part of another bison is visible (Laugerie-Basse, Dordogne). Natural size (after Breuil).

this particular field, decorative sculpture is chiefly seen on "batons of commandment" and dart throwers.

In "batons of commandment" the office of decorative sculpture essentially consists in transforming the terminal protuberance into the head of an animal. The enlargement at the top of the stem and the hole in its center already suggest a head and an eye. Thus, in an example from Lacave (Lot) (Fig. 29, p. 36), belonging to the Middle Solutrian, the general aspect of the head with pointed nose and erect ear grossly resembling a doe seems to have been attained unintentionally. In some rather rare pieces which are found in the Pyrenees, the Dordogne

Fig. 47. Dart throwers in reindeer horn. To the left, from Saint-Michel d'Arudy (Basses-Pyrénées) (after Mascaraux). To the right, from Bruniquel (Tarn-et-Garonne). *Scale:* 2/3 (after Cartailhac).

(Fig. 45, p. 56), and Bavaria the artist appears to have wished to represent a bird's head with open beak, the perforation of the baton supplying the eye. But, most frequently, the batons terminate in heads of quadrupeds, often of a remarkable execution, notably those from Placard (Lower Magdalenian)[72] and Laugerie-Basse (Fig. 46, p. 57).[73]

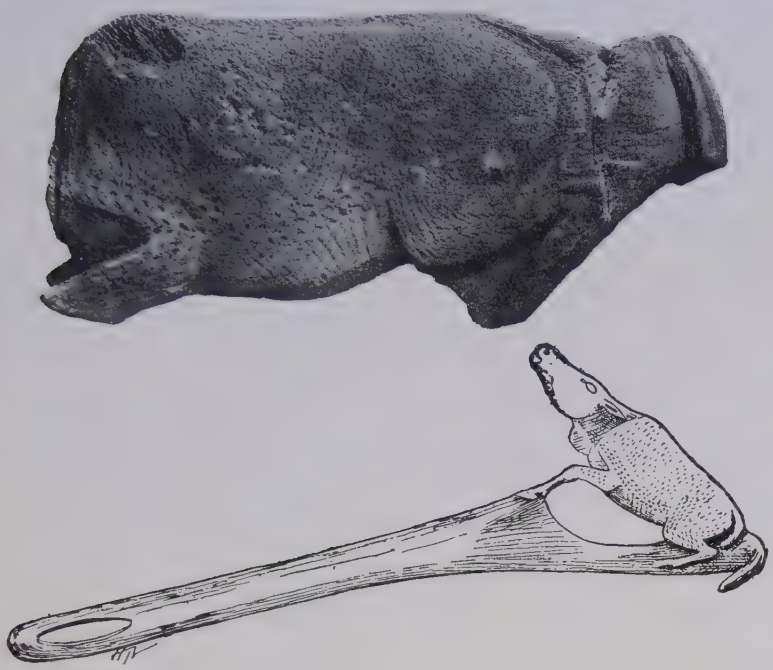

Fig. 48. Body of a cervidae, fragment of a sculpture in reindeer horn (Enlène, Ariège). Natural size (after Bégouen). Below, an attempted reconstruction of this fragment as a dart thrower (after Breuil).

In their purely utilitarian undecorated form, dart throwers such as are found in the Lower Magdalenian of Placard[74] are composed of a shaft with the upper part more or less smooth, forming a sort of groove to receive the arrow, with a hook at the rear intended to hold its posterior extremity. Besides fragments exhibiting a notch and thus recognizable, we are possessed of

[72] Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 23, Nos. 1, 2, 4–6 (6 = *Rép.*, p. 168, Nos. 2–4).

[73] Cf. *Rép.*, p. 103, Nos. 6–7; p. 112, Nos. 1, 6–7.

[74] Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 24, Nos. 5–7.

several complete specimens of sculptured dart throwers, thanks to which we can understand their ornamentation and the manner of its adaptation to the practical use of the implement (Fig.

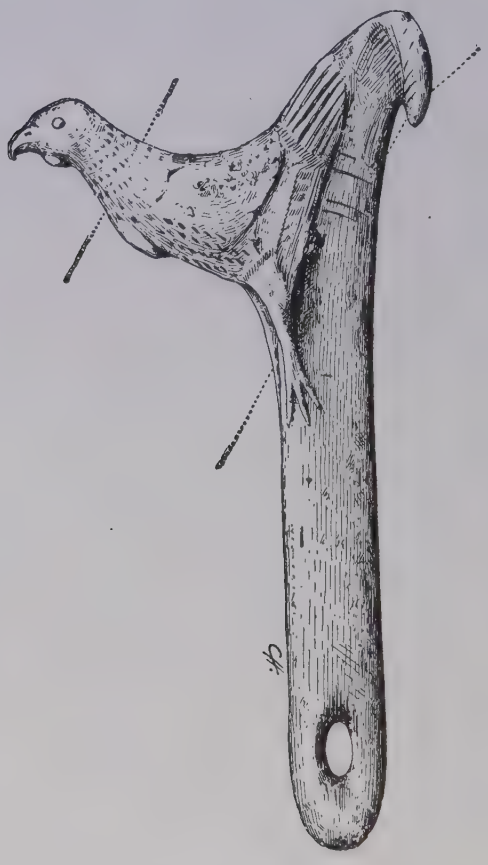

Fig. 49. Reconstruction of a dart thrower decorated with a grouse, from a fragment sculptured in reindeer horn from Mas d'Azil, named "sphinx" by Piette (original part limited by the dotted lines) (after Breuil).

13, p. 20 and Fig. 47, p. 58).[75] The hook was furnished sometimes by the beak of a bird, sometimes by the forelock of a horse,[76] or again by what seems to be the tail of a fish, unhappily broken, added on an eel.[77] A dart thrower from Mas

[75] Cf. *Rép.*, p. 102, Nos. 14–15 (Laugerie-Basse).
[76] Cf. *ibid.*, p. 33, Nos. 2–4, 8–9 (Bruniquel).
[77] *Ibid.*, p. 156, No. 5 (Mas d'Azil).

d'Azil[78] is sculptured admirably into a wild goat seen foreshortened, between the forefeet of which the arrow was held.

The adaptation of sculpture to its utilitarian object appears to have been particularly ingenious in the case of dart throwers. Unfortunately, one must speak of these with extreme prudence, as they have reached us in so fragmentary a state that their reconstruction can only be more or less conjectural. A curious detail is to be noted in a certain number of these sculptures: the head has been intentionally cut off during the Paleolithic epoch. These instruments, for which I propose the name of "ballasted dart throwers," differ from the simple type by a large protuberance situated below the region of the hook, which, in making this extremity heavier, adds force to the propulsion. This ballistic improvement served to support a rich figured ornamentation. The two most complete examples are the famous mammoth from Bruniquel (Montastruc), called the Peccadeau mammoth from the name of its first owner,[79] and a well-known object from Laugerie-Basse[80] formerly considered in error to be a poniard. The two wild goats from Saint-Michel d'Arudy,[81] a bison from Mas d'Azil,[82] a cervidae from Enlène (Fig. 48, p. 59), a wild goat from Isturitz,[83] apparently belong to the same series. The object from Mas d'Azil called "sphinx" by Piette[84] has been restored by the Abbé Breuil as a dart thrower decorated with a bird (Fig. 49, p. 60), and the so-called "Swan with three heads" of the same origin[85] by Mr. Hubert as a dart thrower decorated with a fish.

The clever manner in which the animal sculptured in the solid mass was attached to the handle of the instrument is worthy of notice. Sometimes it was by the feet, as it appears from the attitude of the wild goat from Isturitz, while this is also seen in pieces where the handle alone remains, exhibiting

[78] *Rép.*, p. 153, Nos. 7, 8.
[79] *Ibid.*, p. 32, Nos. 1, 2.
[80] *Ibid.*, p. 106, No. 1. Cf. Breuil, *L'A.*, XVI (1905), 629–632.
[81] *Ibid.*, p. 22, Nos. 3, 6–7.
[82] *Ibid.*, p. 151, No. 1.
[83] Passemard, *Rev. Archéol.*, I (1922), 26, Fig. 19.
[84] *Rép.*, p. 156, No. 2.
[85] *Ibid.*, p. 156, No. 6.

the hoofs of ruminants (Fig. 50, p. 62).[86] Sometimes it was, on the contrary, by the head, as in the Peccadeau mammoth. This object furnishes a curious example of prehistoric repair: The tail, which formed the hook indispensable to the implement, having been broken, a new one was fitted in the back of the mammoth, a little in front of the place of the original tail.

Ethnology informs us of the considerable place held, among the primitive people, by apparently purely geometric ornaments which a more profound study shows to be degenerated figure representations. The Reindeer age presents numerous specimens of this category, the true significance of which remained long unperceived until discovered by the Abbé Breuil. We have not the space to examine them here in detail. In deliberately leaving aside some seductive but excessively conjectural theories, let us keep to a few summary indications, remembering that in spite of the important place held by the degeneracy of figure representations in Paleolithic art, these geometric ornamentations can hardly be entirely explained by this sole factor.

The mode of operation in this study is the "method of series." A figured design is taken as a basis,

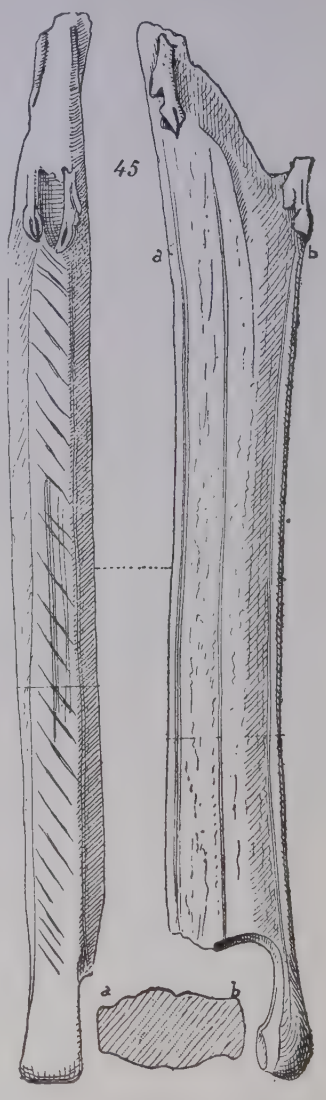

Fig. 50. Shaft of a reindeer-horn dart thrower with vestiges of four sculptured feet of a ruminant (Abris du Château, Bruniquel, Tarn-et-Garonne). *Scale:* 2/3 (after Cartailhac).

[86] Cf. *Rép.*, p. 23, No. 2 (Arudy).

and the less and less recognizable motives are placed in the order of transition, thus permitting a conclusion. In a few unhappily exceptional cases, several figures are juxtaposed on the same object, executed in all probability by the same artist, which must be considered as more and more hastily made replicas of the same motive. The most characteristic and truly decisive example is furnished by three capridae heads engraved on a reindeer horn from Massat.[87]

The degeneracies appear to result from the separate or concurrent action of two factors: on the one part schematization which, under the influence of accidental circumstances (awkwardness or hurry in the execution or narrowness of the surface to be decorated), simplified or deformed the lines of the drawn model; on the other, the stylization of lines which modifies them with the intention of producing an aesthetic effect, and chiefly to satisfy a taste for symmetry and rhythm.

It goes without saying that degeneracy becomes more rapid and marked as it departs from the original motive, the significance of which has been entirely forgotten and its reproduction, now a matter of routine, is increasingly modified in its form. Besides, it is often very hard to find the origin of a given motive as it may be traced, especially in the most simple forms, to different original figures with equal probability. Again, a degenerated motive assumes a new figured significance which, according to the case, may be its original or an entirely new meaning.

The comparison between different examples shows how the profile head of a quadruped without horns, such as a doe, is reduced to a simple horizontal bar flanked at one of its extremities by a little oblique line recalling the ear,[88] or again, how the juxtaposition of the schematic profiles of the horse results in an undulating or festooned ornament.[89] The front view of the heads has brought about varied degeneracies, the clearest and most recognizable of which has roughly the form of a French turnip surmounted by leaves varying in number.

[87] *Rép.*, p. 158, Nos. 4–6. Cf. Breuil, *C. R. Acad. Inscr.* (1905), p. 117, Fig. 6, Nos. 1, 2 (Le Souci); *Rép.*, p. 188, Nos. 4, 5 (Montfort).

[88] Breuil, *C. R. Acad. Inscr.* (1905), p. 117 and Fig. 6.

[89] *Ibid.*, Fig. 7.

When there are four "leaves" they correspond to the ears and horns of a capridae, when only two to the ears of a ruminant without horns, when three to the ears and forelock of a horse. At the last stage of degenerescence this motive is reduced to a *Y*.[90] The schematization of animal heads from the front is found not only in engraving, but also in sculpture, as in pendants.[91]

Sometimes, whether in profile or full face, the head is reduced to a representation of the eyes and horns alone. By means of an ingenious and, in my opinion, exact conjecture, the Abbé Breuil has considered the ensemble of the horns and eyes of the bison as one of the sources of the curvilinear and spiral decoration. This derivation is strongly supported in several figures of the Lower Magdalenian which represent this ensemble isolated,[92] even completed in certain examples by lines recalling the shaggy forehead.[93] Whatever may have been the origin of this motive, its decorative utilization proves that the artists were attracted by its ornamental character and by the aesthetic effect of its constitutive lines, apart from any connection with reality. Besides, this appears to be an isolated case for, generally and chiefly in the Upper Magdalenian, the degeneracies seem to be due much less to an attempt at a truly artistic effect than to "mass production" resulting in works of inferior artistic value.

The wild goat seen from the back, figured in a naturalistic fashion on a blade of bone from Laugerie-Basse (Fig. 70, p. 85), is found schematized on a "baton of commandment" from Raymonden[94] and on another from Laugerie-Basse[95] where it

[90] Breuil, *C. R. Acad. Inscr.* (1905), pp. 112–115; *Congrès d'Anthropol. & d'Archéol. Préhist.* (Monaco, 1906), I, 396–400; *L'A.*, XVIII (1907), 34.

[91] Breuil, "Congrès de Monaco," *op. cit.*, I, 395, Fig. 1.

[92] Breuil, "Exemples de Figures Dégénérées," *op. cit.*, I, 400, Fig. 4, Nos. 10, 12 (Lourdes), 11 (Raymonden), 15 (Laugerie-Haute), 16 (Cambous); cf. *F. de G.*, Fig. 169, No. 5.

[93] Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 19, Nos. 1 (Grotte Maszycka) and 8 (Placard). *Rép.*, p. 136, No. 8 (Lourdes); p. 23, No. 7 (Arudy).

[94] Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 28, No. 2 (*Rép.*, p. 55, No. 6, does not give the unrolled decoration).

[95] Breuil, *C. R. Acad. Inscr.* (1905), p. 111, Fig. 1, No. 3.

becomes a lozenge prolonged at both ends by chevrons. The reunion of several similar motives is one of the origins of the lozenge trellis.

A last example may be taken from the theme of the fish. It seems to me particularly instructive as putting in evidence the complexity and the difficulty of the study of degeneracies, because of what I call "graphic homonymy and synonymy." On the one hand, by means of divergent modifications, the same original motive results in figures of an entirely different aspect, but yet remaining synonymous in that they are of the

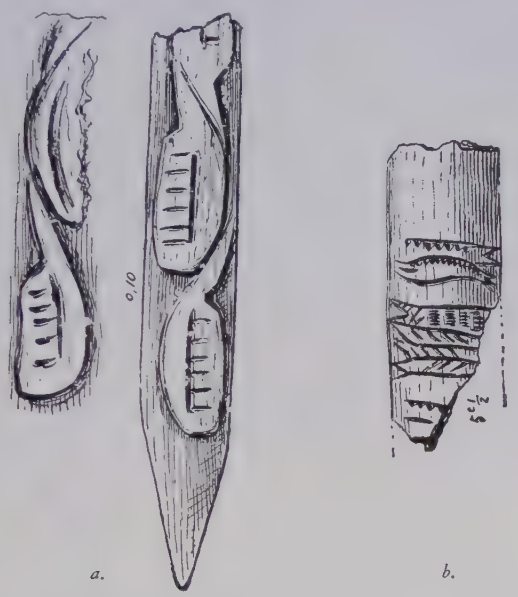

Fig. 51. Degeneracies of fish figures. To the left a chisel; to the right a fragment of a small semi-round stick. Laugerie-Basse (after Breuil).

same figured origin. Inversely, figures of a different origin arrive at the same aspect and thus become homonymous. In the fish, schematization can give the maximum importance to the body, the fins, or the tail. Thus sometimes the drawing reduces itself to a sort of lightly undulated ribbon divided into branches at one of its extremities (Fig. 51, p. 65), sometimes to an ellipse of pointed extremities striped with oblique lines (Fig.

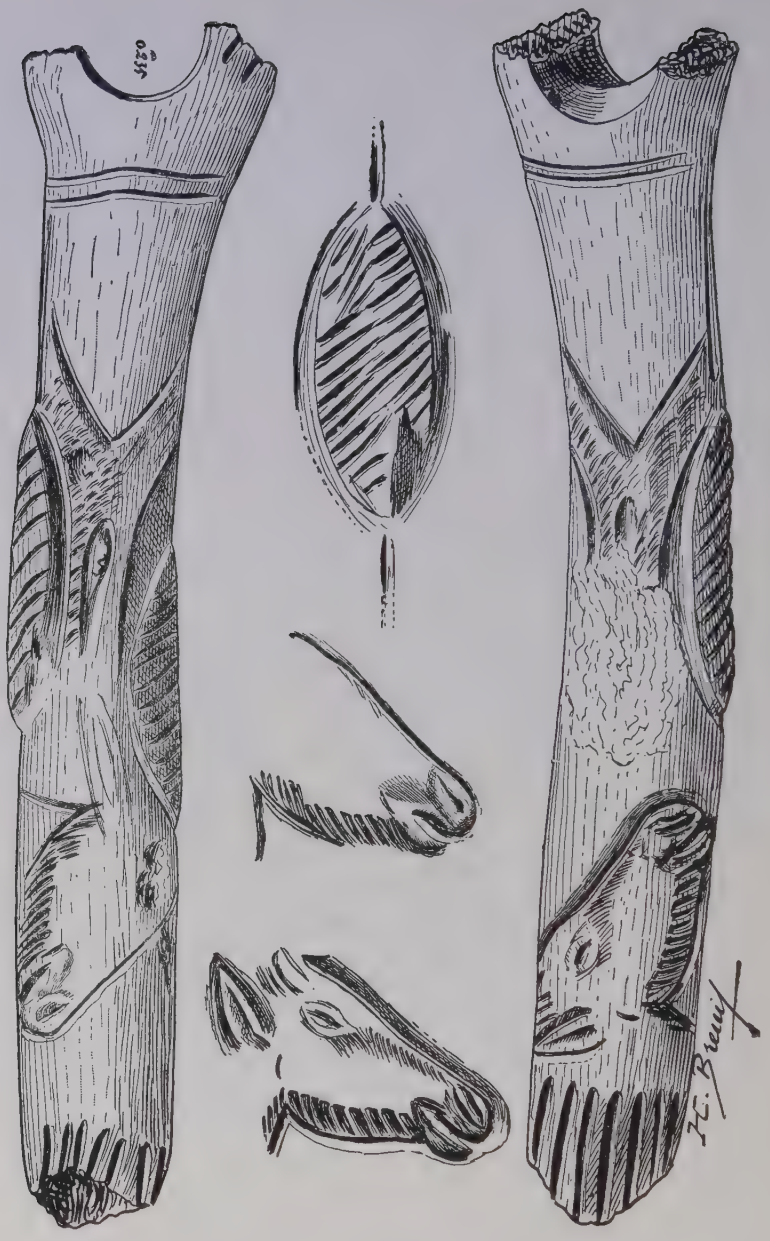

Fig. 52. The shaft of a "baton of commandment," decorated with heads of the horse and figures derived from the fish (Laugerie-Basse).
Scale: 2/3 (after Breuil).

52, p. 66)[96] or checked,[97] sometimes prolonged at one of its ends by a straight line, sometimes composed of a sort of parenthesis for the body, at one end of which are a series of parallels indicating the tail,[98] or again to a sort of spindle notched with cuts or chevrons.[99] At times the fish motive passes from the form of spindles to that of tadpoles or raindrops. These figures, often disposed in an alternate fashion, as, for example, on the two chisels from Lorthet[100] and Laugerie-Basse (Fig. 51, p. 65), furnish the transition, particularly marked on the chisel from Souci,[101] toward the figures at first interpreted as human arms terminating in hands, which were in reality the tails of fish.[102]

From these multiple modifications, the degenerate fish motive converges toward other themes of different origin. Its elliptical schematization comes to confuse itself with that of the eye. A grouping of several of these motives brings about the reticulated themes. The more or less flattened body with the fins reduced to oblique lines disposed on one or both sides gradually merges into the fishbone motive which might have been derived from motives purely geometric, from arrows or harpoons, from cervidae horns, or from representations of vegetables. Schematized fish placed end to end result in a figure resembling a necklace of fish vertebrae.[103] The tail of the fish alone and provided with a representation of a hole at the place of its insertion in the body (Fig. 52, p. 66) calls to mind some actual pendants of the same form which might be intended to represent the feminine abdomen, as in the object from Placard.[104] Finally, in the most simplified form, it ends in the same *Y* as do the heads of animals seen full face.

[96] Cf. small stick of reindeer horn from Laugerie-Basse (*Rép.*, p. 109, No. 4), behind two heads of young reindeer; it is to be noted that the other side of this object (*Rép.*, p. 115, No. 7) bears lifelike engravings of fish.

[97] Perforated baton from La Madeleine (*Rép.*, p. 144, No. 9).

[98] Chisel in reindeer horn from La Madeleine (*Rép.*, p. 137, No. 4).

[99] Pendant in bone from Laugerie-Basse (*Rép.*, p. 118, No. 6).

[100] Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 40, No. 5.

[101] Breuil, *ibid.*, Fig. 40, No. 1.

[102] *Rép.*, p. 137, Nos. 3, 5, 6 (La Madeleine). Cf. Breuil, *L'A.*, XVIII (1907), pp. 22–23.

[103] *Rép.*, p. 23, No. 6 (Arudy); p. 143, No. 8 (La Madeleine).

[104] *Ibid.*, p. 171, No. 7.

III.

REALISM IN FIGURED ART[1]

IT is rightly said that Paleolithic art is characterized by its realism and its perfection attributable to the qualities of minute observation and manual skill enforced and developed by the living conditions of hunting peoples.

Since it proposes to create resembling images of actual objects and particularly living beings, figured art is by essence realistic. But the resemblance between the image and the object represented, which we shall call the "model," although in the majority of cases the artist did not have it under his observation at the moment and must have drawn it from memory, could be variously understood.

It seems that in most cases resemblance was sought, as in the two extremes represented in the works of modern professional artists on one hand and primitives and children on the other, not in the reproduction of all the elements of the model but in a selection, either intended or instinctive, of certain features judged essential, which entailed as its counterpart the neglect of other features considered as without interest.

Thus, in Paleolithic art, the mammoths from Combarelles and Font-de-Gaume are represented without ears. A certain number of those in Font-de-Gaume have no eyes. The same artists who, as we shall see further, took great care to figure the arrowheads in their drawings of wounded animals, although they were invisible, being buried in the body, frequently omitted the visible shaft as being without interest (Fig. 53, p. 69). One finds at Minateda, even in paintings of the naturalistic phase, several personages devoid of arms, although in two cases their representation would have been logical to hold the bow figured before the individual (Fig. 54, p. 70).

[1] I restrict myself here to the fundamentals. For further details on the subject I refer the reader to my study published in *L'A.*, XXXIII (1923), 17 *et seq.*

In the characteristics of the model one can distinguish two large categories: those which are visible from a given point of view and those which, although effectively belonging as much as the first to the being considered and thus to be seen from another point of view or under different conditions, are not visible from the position actually chosen.

Fig. 53. Bison, with arrows represented on the body. Wall painting in black, the two lateral arrows in red (Niaux, Ariège). *Scale:* 1/10 (after Breuil).

The difference between these two categories of features arises from the fact that the model is an object in three dimensions although the visual sensation that it offers at a given moment has but two. Consequently, certain characteristics will present different aspects according to the point of view from which the model is considered, and may even be invisible. For example, in the human face, the symmetrical situation of the eyes on each side of the nose only appears from the front, while the prominence of the nose in contour is only visible with the face in profile.

This distinction of the characters of the model does not exist in sculpture. Having three dimensions like the model, sculpture can also give successively numerous different aspects evincing certain qualities and hiding others. The sculptor can

include all the elements that he judges essential, and it is left to the spectator, if he so desires, to regard the piece from the point of view which gives prominence to one certain feature. But a drawn representation, whether it be an engraving, a monochrome or polychrome painting, has but two dimensions, or, otherwise expressed, can represent but one sole aspect. The features of the model which are in the drawing are essentially

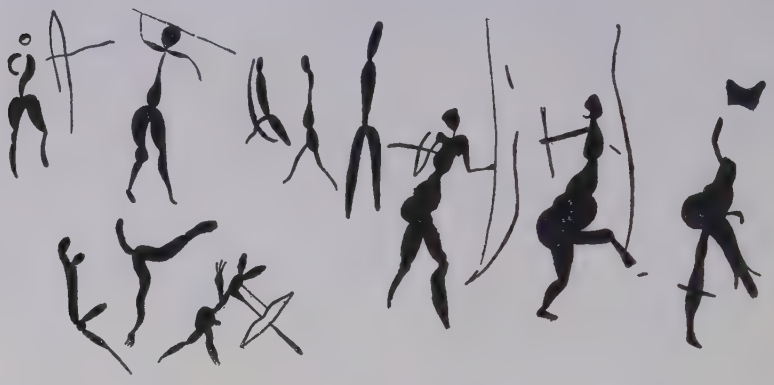

Fig. 54. Human figures. Wall painting in black and dark brown from Minateda (Province of Albacete, Spain). *Scale:* 1/4 (after Breuil).

there; those which are not there are eliminated. It is no more possible for those represented to cease to be there than for those which are not to be found there. Here exists an essential difference between the drawn image on the one hand and the sculptured representation and the model on the other, in which a characteristic, invisible at one moment, becomes apparent at another, and inversely. Thus, in a model or sculptured image, all that is present is visible successively, but not simultaneously, while in a drawing, everything is evident at the same time, whereas nothing that has not been included is ever perceptible.

From this inherent condition of the very nature of drawing, it follows that, in most cases, it is impossible to figure at once all the characteristics of the model. The artist will then commence by choosing for his image, although this choice may be involuntary, the point of view from which he will place in evidence the most essential characteristics, generally the silhouette of the whole body. It is for this reason that primitive artists of the most varied spheres chose to draw their animals in profile,

and the human figure, with but few exceptions, full front. This tendency is so strong that in the drawings of groups of beings or personages, the point of view chosen to figure each one is not that which accentuates its relation with the others, but that which agrees best with its characteristic representation when isolated. This is analogous to the convention followed for a long time at the theater where actors in a dialogue both faced the

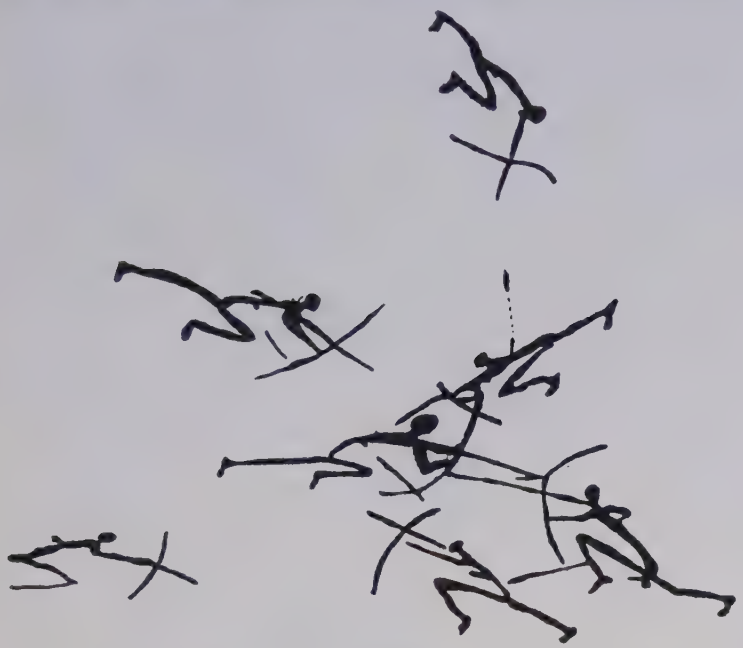

Fig. 55. Combat of archers. Wall painting in dark red (Morella la Vella, Province of Castellon, Spain). *Scale:* about 1/3 (after the lightly restored copy by Benitez in Hernandez-Pacheco).

public aligned in front of the orchestra leader instead of facing one another.

But the resemblance obtained by this process is only partial, and, as the artist becomes more exacting and wishes to endow his work with a greater number of details, he will come up against this inevitable difficulty that although the model can successively present diverse aspects alternately hiding or showing such or such a feature, the characteristics figured in the design can be shown but simultaneously.

The result is that to portray the characters of a model the

designer is obliged to choose, whether consciously or otherwise, between the two courses of representing that which he sees of it or that which he knows of it. In other words, after having chosen the point of view from which are visible the greatest number of important lineaments the artist must refrain from representing others belonging to the model, but not to be seen

Fig. 56. Stag hunt. Restored painting in dark red (Cueva de los Caballos, Barranco de Valltorta, Province of Castellon, Spain). *Scale:* 1/8 (after Obermaier and Wernert).

in the chosen position, or else include all the features although they are not apparent at the same time. In reality, there are two main kinds of resemblance and, since realism aims at likeness, two kinds of realism: visual realism, which calls solely for the representation of the characters of the model that can be seen from a given point, and intellectual realism, which

consists in the full representation of all the features which the model actually possesses, which "are there." Drawing is in the first instance a fixed visual impression, and in the second instance a definition expressed by lines instead of words.

Beyond doubt the keynote of Paleolithic art is visual realism. One class of figures consisting of fixed visual impressions is that of pictured groups of several different beings. This could be at first assemblages of human beings. There are no certain examples of it in French or Cantabrian art where even isolated human figures are extremely rare. In the Spanish wall paintings one can cite the charming scene of a woman holding a child by the hand, from Minateda (Fig. 81, p. 104), the famous scene from Cogul representing perhaps a ritual ceremony (Fig. 116, p. 191), and divers war scenes (Fig. 55, p. 71).

Again, man can be associated with animals in scenes of the hunt. There is but one example of this kind in French Paleolithic art, the famous "Hunter of Aurochs" from Laugerie-Basse (Dordogne) in which it appears that the man and the bovidae (in reality bison) were intentionally associated. It is venturesome to consider as a fishing scene the juxtaposition of a fish and several very coarsely executed human figures on a bone from Laugerie-Basse.[2] On the other hand one cannot but recognize scenes of the hunt in a certain number of groups in the wall art of eastern Spain (Figs. 24, p. 28; 25, p. 28; 56, p. 72; 57 and 58, p. 74).

Intentional groups of animals are equally very rare, for when several animals appear on a bone or piece of reindeer horn they are probably but repetitions of the same motive. This is all the more the case with assemblages of animals on the walls of caverns which are most likely but the accidental juxtaposition of the works of different authors, probably not even contemporaneous. However, a bone from Laugerie-Basse bears the engraving of an otter seizing a fish.[3]

As to representations of what we might call the social life of animals, we can cite an engraving from Chaffaud (Fig. 59, p. 75). The picture, which recalls to some extent Egyptian per-

[2] *Rép.*, p. 99, Nos. 5, 6 (which does not reproduce the fish); *Alt.*, Fig. 103, No. 2.

[3] *Rép.*, p. 115, No. 4.

spective, is arranged in two superimposed lines each bearing a line of horses lightly engraved. In both, the leading horse is rendered conspicuous, while in perspective the animals are behind one another. An engraving on bone from La Mairie at Teyjat[4] represents a similar long file of reindeer. One would hesitate to affirm that in the ensemble of figures from Font-de-Gaume (Fig. 80, p. 102) the artist intended to represent a lion attacking a group of horses; still, in actuality the horses face the enemy and try to bite and foul it under their forefeet. Yet it seems incontestable that the assemblage of horses form an intended group represented in perspective by the relief of the planes. The bodies of the upper horses are interrupted

Fig. 57. Bison hunt. Wall painting in red from Cogul (Province of Lerida, Spain). *Scale:* 1/8 (after Breuil).

Fig. 58. Chamois hunt. Wall painting in brown (Tortosillas, Province of Valencia, Spain). *Scale:* 1/4 (after Breuil).

from the place where each of them is masked by that of the horse situated below, on the plane closer to the onlooker. The lower horse has four front feet, of which two must be the feet

[4] *Rép.*, p. 183, No. 4.

of the horse figured above, that is to say behind him, which has but hind feet. In Spanish wall paintings one also finds a few examples of files of animals, but simply in succession, notably the band of eight male and female wild goats from La Vieja (Fig. 60, p. 76).

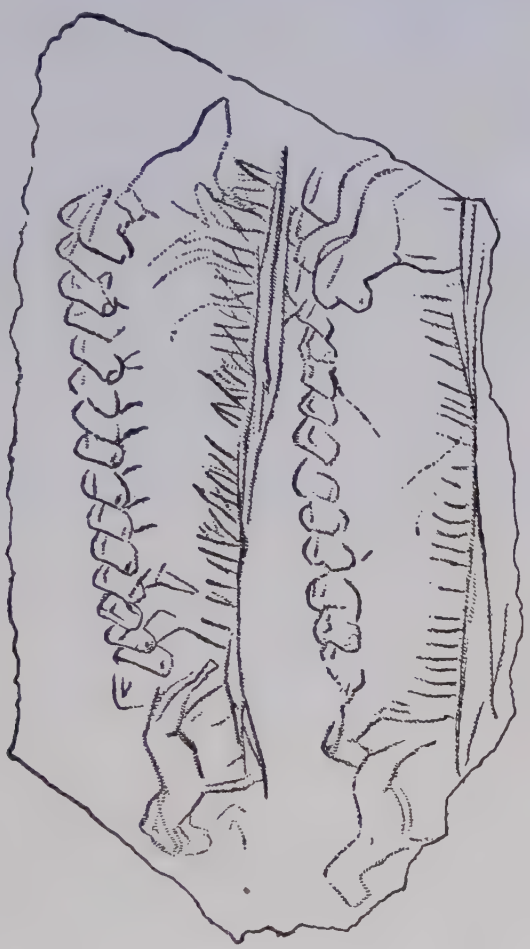

Fig. 59. Engraving on a slate plaque (Grotte du Chaffaud, Vienne). Natural size (after Cartailhac).

Paleolithic artists also represented in a realistic, almost impressionistic fashion, diverse scenes of what one might call the family life of the animals. I do not know of examples unquestionably representing combats between males comparable to those found in the prehistoric wall art of Algeria figuring the

Fig. 60. Fragment of the wall paintings from La Vieja representing hunters, stags, and wild goats (Alpera, Province of Albacete, Spain). To the right, between the horns of a stag, there is a little deteriorated wild goat turning its head. To the extreme right is an individual climbing a cord or vine. *Scale:* about 1/16 (after Breuil).

Fig. 61. A couple of reindeer, sculptured in ivory (Bruniquel, British Museum). *Scale:* about 1/2 (after Breuil).

fights of Babulus Antiquus, the finest example of which is that near El Richa (annex of Aflou).[5] The two polychrome reindeer from Font-de-Gaume shown facing one another are, judging from the horns, male and female. The female, crouched, is in the attitude of scratching the snow with the palm of her basilary antlers, in search of lichens. As regards the famous engraving on a schist plaque from Laugerie-Basse known under the name of "The Combat of Reindeer,"[6] it manifestly belongs in the following group.

Fig. 62. Doe with her faun. Engraving on limestone (Le Bout-du-Monde, near Les Eyzies, Dordogne). Actual size (after Breuil).

This comprises couples where the male follows or sniffs the female in a prelude to pairing. Such are "The Combat of Reindeer" from Laugerie-Basse, the sculptured ivory piece from Bruniquel (Fig. 61, p. 76) that the Abbé Breuil reconstructed at the British Museum by reuniting the two fragments considered until that moment as independent pieces, and the two bisons sculptured in clay from Tuc d'Audoubert (Fig. 3, p. 10).

The last group of these family scenes corresponds to the

[5] G. B. M. Flamand, *Les Pierres Ecrites . . . du Nord-Africain* (Paris: Masson, 1921), Pl. VIII.

[6] *Rép.*, p. 105, Fig. 6.

theme of a mother accompanied by her offspring, of which we will mention by way of example a doe and her faun (Fig. 62, p. 77).

In passing from the groups to isolated animals, we find that in a large number of them the attitude and movement are rendered with a fidelity denoting an extremely close observation of

Fig. 63. Browsing reindeer. Engraving on stone (Limeuil, Dordogne). *Scale:* 2/3 (after Bouyssonie and Capitan).

nature, which is not surprising on the part of hunting peoples. These figures being well known, we shall restrict ourselves to recalling, besides the polychromes from Altamira, the browsing reindeer from Limeuil (Fig. 63, p. 78), which is as good as that from Thaingen (Fig. 64, p. 79), and the running reindeer from Saint-Marcel (Indre) (Fig. 65, p. 79). At La Vieja, the attitudes of running and jumping as well as the difference in the development of the horns according to sex are well observed and rendered in a band of wild goats (Fig. 60, p. 76). To the left of these there is another wild goat, turning his back to the group, noticeable on account of the rearing action of the

body, the head and muzzle brought back against the throat, and the horns threatening. Dr. de Saint-Périer has also remarked upon the realistic rendering of the trunks of the mammoths.[7]

Fig. 64. Browsing reindeer. Developed engraving on a reindeer-horn baton (Thaingen, Switzerland). Natural size (after the drawing by Heim).

Fig. 65. Running reindeer. Engraving on a schist plaque (Saint-Marcel, Indre). *Scale: 2/3* (after Breuil).

An attitude commonly given to animals, sometimes cleverly executed and anatomically correct, sometimes so clumsily as to be analogous to the drawings of children, is that of the legs folded under the body, which suggests animals wounded, lying

[7] R. de Saint-Périer, *Bull. Soc. Préhist. Fr.*, XVII (1920), 283–285.

down, or getting up from their resting places (Figs. 58, p. 74; 71, p. 87). Ruminants are frequently represented stretching out their tongue (Figs. 66, p. 80; 71, p. 87; 75, p. 90). The breath is indicated in certain images, notably in an engraving of the forequarters of a reindeer on a perforated baton from Laugerie-Basse (Fig. 68, p. 82), in a wall engraving of a horse from Marsoulas,[8] and perhaps in the head of a bear engraved on stag horn from Massat (Fig. 67, p. 81).

Another notable example of realistic attitudes is that of animals in profile where the head is not in the alignment given by the body. I will not insist on those where the head is repre-

Fig. 66. Bison. Polychrome wall painting (Altamira, Province of Santander, Spain). *Scale:* about 1/5 (after Breuil).

sented from the front and the body in profile, as the capridae or cervidae engraved on the base of a reindeer-horn baton from Gourdan (Upper Magdalenian),[9] for these examples could be just as rightly credited to the account of either visual realism, since in fact these animals occasionally present this attitude, or to intellectual realism. Moreover, it is possible that figures of this sort were inspired by the corollary of intellectual realism which I call change of point of view, the full face pose being

[8] *Rép.*, p. 145, No. 4.
[9] *Ibid.*, p. 88, No. 10.

that which evinces the greatest number of details of the head while the profile manifests the greatest number of details of the body.

But the uncertainty of the interpretation of animals represented from the front no longer exists for others pictured as turning their heads backward. Here, in fact, one could not lay claim to intellectual realism, because the turned head being in profile as in the most normal position does not manifest the greatest number of details as in the full face, but simply the details of one side and particularly of only one eye. The only possible explanation of the attitude given by the artist to his

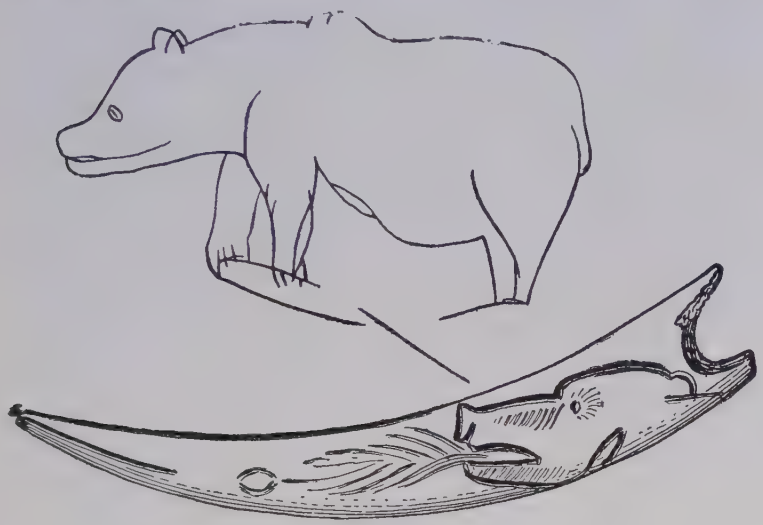

Fig. 67. Engravings of bears (Massat, Ariège). Above, on a pebble (after Garrigou). Below, on a perforated stag-horn baton (after E. Lartet). *Scale:* 3/4.

figure is that he wished to render a movement observed in the living model. As examples of this category, I will cite the galloping cervidae engraved on the other face of the perforated baton which I have mentioned above apropos of the representation of the breath (Fig. 68, p. 82), the stag belonging to the famous baton representing salmon, from Lorthet (Fig. 16, p. 23); in wall art the famous "Agnus Dei" horse turning his head, from Pair-non-Pair (Fig. 1, p. 7), the polychrome bison from Altamira (Fig. 69, p. 84). Spanish

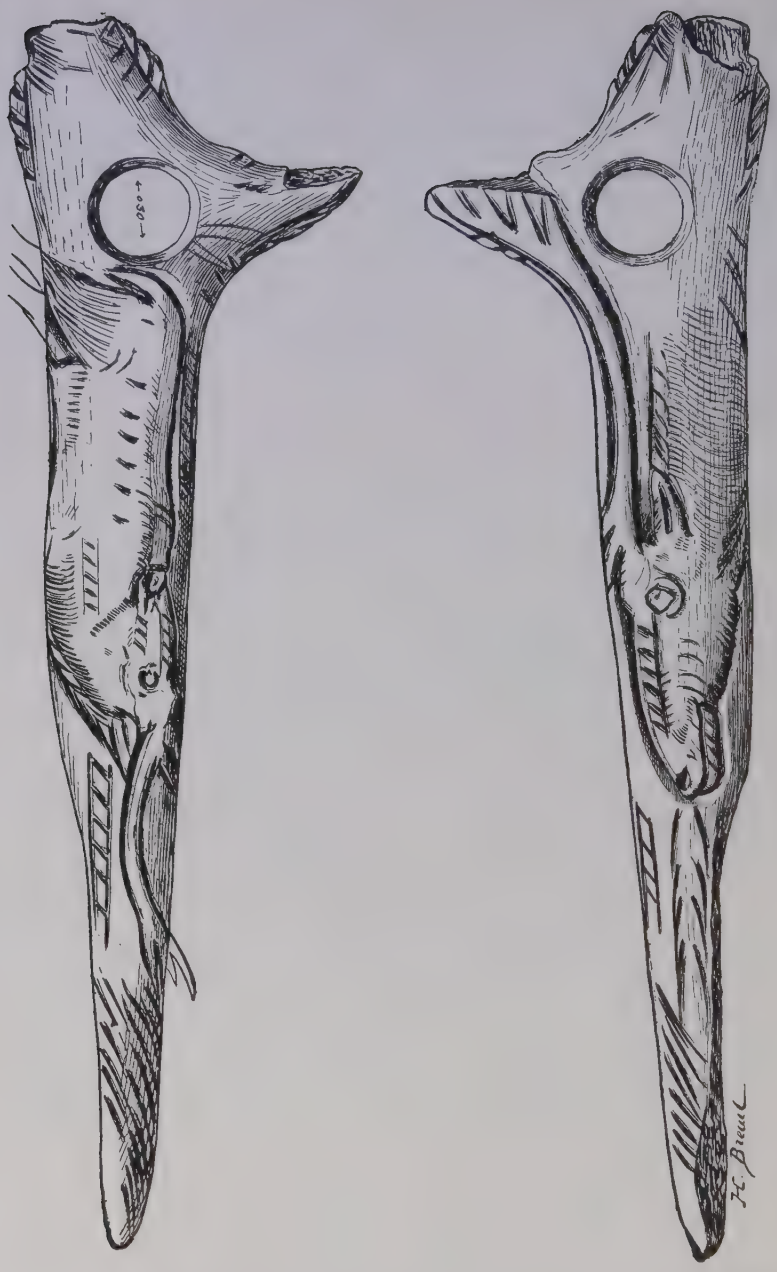

Fig. 68. "Baton of commandment" with figures of cervidae (Laugerie-Basse, Dordogne). *Scale:* a little less than 1/2 (after Breuil).

wall art, at La Vieja, shows a little male wild goat with very sinuous horns, lacking feet and parts of the body (Fig. 60, p. 76).

Finally, the clearest manifestation of visual realism is foreshortening. Here, in fact, among the various possible aspects of the model, the artist chooses not that which is easiest to discover but on the contrary that which presents the most unusual aspect. It is, one might say, the substitution of impressionism for characterization.

Certain figures, for example the horse engraved on a fragment of shoulder blade from Laugerie-Basse,[10] were perhaps intended to be shown from three-quarters. But this appearance could also be explained by clumsy execution.

On the other hand the wild goat engraved on a fragment of a baton from Laugerie-Basse (Fig. 70, p. 85) is certainly seen from the back. The globulous body is prolonged by an attenuated neck terminated in a head furnished with horns and ears. Under the body are seen two feet gathered up, as under an animal lying down. Another animal seen from an unusual point of view is the bison engraved on the baton from Gourdan already mentioned,[11] which seems to be figured in the fashion of a bird's-eye view. Finally the body and head of the elk engraved on reindeer horn from Gourdan (Fig. 70, p. 85) is incontestably represented from the front.

The examples which we have just reviewed establish the fact that visual realism held without contest a preponderant place in the art of the Reindeer age. But the diametrically opposed conception to resemblance, intellectual realism, was also represented there to a notable degree, even at the epoch when visual realism attained its apogee.

The rarity of groups in Paleolithic art and the absence of the representation of any background in those known hardly permit clear conclusions on the artists' conception of the rendering of perspective in space. Yet several examples seem to manifest a tendency, corresponding to intellectual realism, to avoid making individuals belonging to the ensemble hide one another

[10] *Rép.*, p. 100, No. 4.
[11] *Ibid.*, p. 88, No. 10.

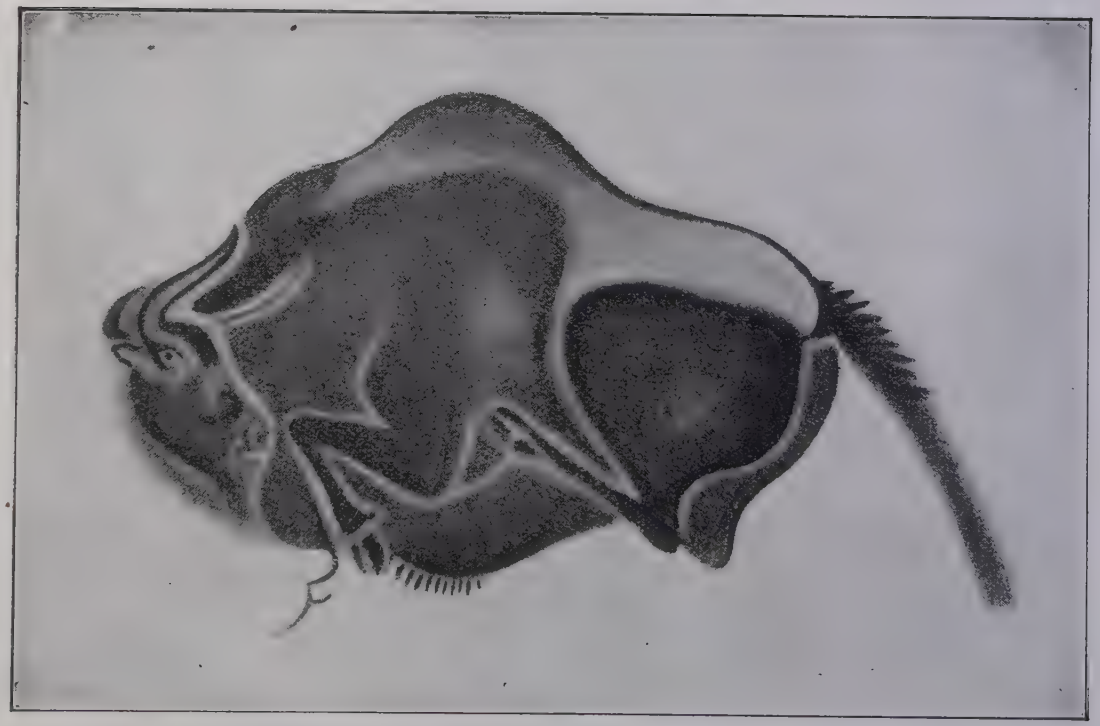

Fig. 69. Bison lying down turning its head. Polychrome wall painting (Altamira, Spain). *Scale:* about 1/5 (after Breuil).

as they do in reality. To this tendency corresponds the superposition of the planes, several specimens of which we have discussed above.

Another corollary of intellectual realism concerned with groups is the process which I call "hinging."[12] Two objects which are face to face are figured reduced to the same plane around one of their extremities, pivoting in the manner of a hinge. One of the objects is drawn in contact with and along the alignment of the other, but inversely. It is thus, for example, that the drawing of two rows of trees bordering a road will have the aspect of a single row on a river bank with its reflection in the water. If one admits that in the engraving on bone from Chancelade (Fig. 113, p. 187) the human beings figured on each side of the fore quarters of a bison, and of whom one carries a palm, represent a sort of procession, the two files would be hinged from the sides of the bison and opposed by it. In any case the hinge method is evident in a unique human group belonging to the Franco-Cantabrian Reindeer age, the relief from Laussel discovered by Lalanne on the surface of the Upper Aurignacian level, which represents a copulation (Fig. 84, p. 112). This is sometimes considered as picturing a confinement,[13] but in my opinion one must see there a copulation, as the body diametrically opposed to the female body could only be an adult, characterized as such by a clearly distinct beard with two points. In this figure, the two personages which should in

Fig. 70. Foreshortened animals. To the left an elk engraved on reindeer horn (Gourdan). Natural size (after Piette). To the right, wild goat engraved on bone (Laugerie-Basse). Natural size (after Girod and Massénat).

[12] Translator's note.—The author uses "rabattement." I have adopted "hinging" because it is more expressive of the peculiarity of the process than "folding over" or "lapping over."

[13] G. Lalanne, *L'A.*, XXII (1911), 257–260; Capitan, *Rev. de l'Ecole d'Anthropol.*, XXII (1912), 316 *et seq.*

reality embrace one another are hinged over sidewise to the same plane, one on each side of their intersection.

But it is chiefly in representations of isolated beings that the symptoms of intellectual realism can be observed.

A characteristic of the animal figures which indicates whether their author conceived realism in the intellectual or the visual form is the appendage of members to the body and horns and ears to the head. Visual realism requires that those of the second plane be more or less hidden by those in the first. Contrarily, intellectual realism demands that each of a pair be shown clearly and distinctly. This exaction is fulfilled by two processes: one consists in making each pair of appendages undergo a sort of 90 degree torsion upon a vertical axis and represents them as though they were seen from the front, the other in putting farther back the organ of the second plane and drawing it behind that of the first plane along the longitudinal axis of the body. Let us examine the application of both methods to the representation of ears and horns, and then of feet.

In order to conclude in favor of intellectual realism from the mode of representation of the ears, it is necessary that they be figured in a fashion clearly different from that in which they are seen, one horn or ear being without doubt intentionally separated from the other with a view to accentuate their duality. Nevertheless, owing to their mobility in the living being, these organs can in fact take positions that correspond to the exactions of intellectual realism, and the manner of their representation does not permit their classification exclusively into one or the other of the two recognized sorts of realism. But, if the ears are mobile, their insertion in the head is fixed. For visual realism, in the profile view, the insertion of the ear of the second plane is hidden by the insertion of that of the first and, in the case of horned animals, also by the horns situated between the two ears. Thus one must bring to the account of intellectual realism the drawings of heads in profile with or without horns where the ears are represented parallel and one behind the other, and those of horned heads where the two ears are visible on each side of the horns. I shall only cite as an example of the first case a stag in red from Calapata (Fig. 71, p. 87).

The horns, in opposition to the ears, are rigid fixtures. Thus their disposition in the drawings indicates whether they are represented in profile according to visual realism, the horn of the second plane being more or less masked by that of the first, or shown in full face or profile displaced backward in conformity with intellectual realism.

Particularly interesting are the horns of the adult stags where the artist must take into account not only their shaft but also their branches and especially the two basilary antlers,

Fig. 71. Stag. Red wall painting (Calapata, Province of Teruel, Spain). *Scale:* approximately 1/3 (after Breuil).

curved in the form of a crotch. Most of the figures that the Spanish Paleolithic wall art furnishes are of the type that I have called "Calapata" from the name of the locality which yielded the first published and, besides, the most remarkable specimens (Fig. 71, p. 87). Each antler taken separately is represented in profile with the prongs directed ahead, yet their whole forms a wide open *V* as though they were seen from the front.

Another application of this mixture of points of view resulting from intellectual realism consists in figuring the foot as

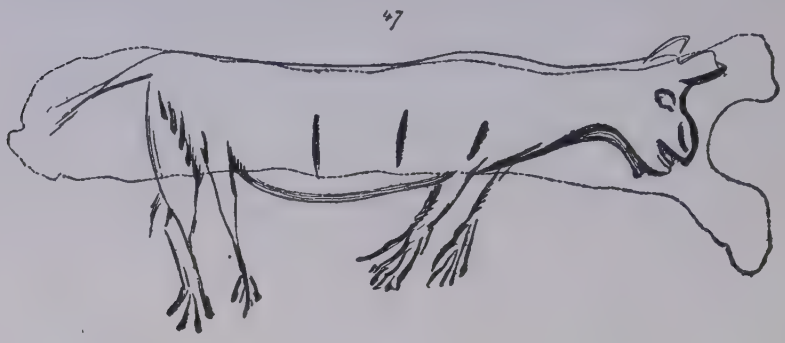

Fig. 72. Feline. Unrolled engraving on a perforated reindeer horn baton (Abris du Château, Bruniquel). *Scale:* 2/3 (after Cartailhac).

though seen from above, thus bringing to view the toes otherwise masked by legs in profile. One sees this in the human figures from La Vieja (Fig. 60, p. 76 and Fig. 117, p. 193)

Fig. 73. Bison. Wall painting in black (Niaux, Ariège). *Scale:* 1/10 (after Breuil).

and from Minateda (Fig. 81, p. 104), in the *Felis spelaea* from Bruniquel (Fig. 72, p. 88) and in the rhinoceros from Colombière (Fig. 83, p. 109).

Intellectual realism is disclosed without possible contestation in the method of drawing shown in the feet of ruminants and hogs. Their hoof is distinguished from that of the horse by the cleft which divides it into two toes, whence their name of bisulcates. Besides, they have two spurs below and in back of the hoofs, while the equidae have but one. These different elements of the foot cannot be seen at once. In profile the toe and the spur of the first plane mask the second of the pair in the second plane. The separation of the two toes can be seen only from the

Fig. 74. Wild goat. Wall painting in black (Niaux).
Scale: 1/7 (after Breuil).

front, that of the spurs only from the back. Finally, in regarding the animal in three-quarters from the front, if one could see the separation of the two toes of the foot of the first plane one could not see it in the foot of the second plane. One must then consider as inspired by intellectual realism the drawings which, although the body and feet are in profile, represent in the foot some elements invisible from this point of view.

This is the case in numerous examples of cleft hoofs (Figs. 4, No. 2, p. 12; 65, p. 79; 73, p. 88; 74, p. 89; and 75, p. 90), where the separation of the two toes is marked as if seen from the front, as though they had undergone a torsion of 90 degrees upon their vertical axes.

Although the Paleolithic artists showed much less care in representing the two spurs than the two toes of the bisulcates,

several drawings witness a desire to show this duality. The process generally employed is but a variant of that which we have already remarked upon in the case of the horns, ears, and feet. There is this difference, however, that the legs on which the spurs are inserted are vertical, while the head on which the horns and ears are placed, and the stomach to which the feet are appended, are horizontal. This displacement mani-

Fig. 75. Polychrome doe, small black bison, and red signs. Paintings on the ceiling of Altamira (Spain). *Scale:* about 1/25 (after Cartailhac and Breuil).

fests itself here not in length but in height, the two spurs being figured as if they were attached to the legs one above the other (Fig. 75, p. 90).

Still clearer than the preceding cases where the designer is obliged to choose between the two sorts of realism is that where the object represented possesses some elements which, although existent, are never visible in normal circumstances, for example, the internal organs of living beings. These elements being invisible, visual realism will not represent them. There will be opacity of the container in the drawing as in the model.

But as they are real and belong essentially to the model, intellectual realism will represent them by transparency as if the body were X-rayed. Thus opacity and transparency become, respectively, the indications of visual and intellectual realism.

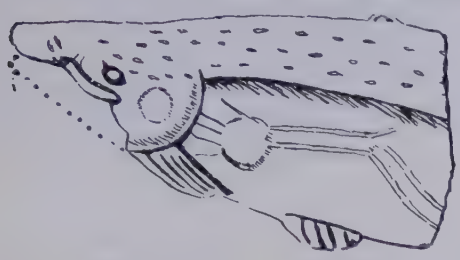

Fig. 76. Fish (trout?). Cut-out profile in bone (Lorthet, Hautes-Pyrénées) (after Piette).

A sure example of the employment of transparency for the representation of the internal organs is furnished by the fish (trout ?) on a blade of bone with cut-out contours, from Lorthet, which shows on one of its sides the schematized representation of the digestive tube and the stomach (Fig. 76, p. 91).

I regard the Aurignacian elephant painted in red at Pindal (Fig. 77, p. 91) as another example of the same process. The spot that is often considered as being an ear may well be interpreted as the heart seen by transparency. At Ardales (Province of Malaga) a red blotch on the big black doe[14] seems also to represent the heart. The otter with the fish, engraved on a bone from Laugerie-Basse,[15] appears after attentive examination to have another fish in its stomach. A painted bison from La Pasiega also shows the same process.[16] Here, the horn in the second plane (the animal's right horn) is figured in its entirety, although all its lower portion, situated behind the forehead, must have been hidden.

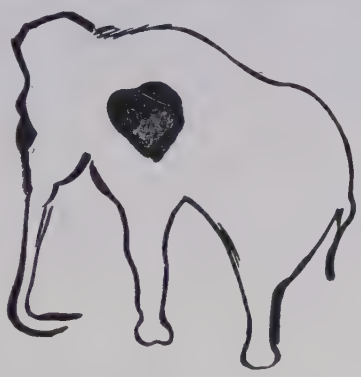

Fig. 77. Elephant. Wall painting in red (Pindal, Province of Oviedo, Spain). *Scale:* 1/10 (after Breuil).

The representation of the internal organs of a living being

[14] Breuil, *L'A.*, XXXI (1921), 245, Fig. 4.
[15] *Rép.*, p. 115, No. 4.
[16] La Pasiega, Pl. XXVIII, No. 83.

is not the only case where the artist was obliged to choose (consciously or not) between opacity and transparency. Another example is furnished by the representation of an object part of which has penetrated into another, as a weapon in the body of an animal or a man, in scenes of the hunt or of war. The end which has penetrated the body is nonexistent for visual realism, but exists for intellectual realism. Hence the manner in which these arrows are represented determines under what conception of realism the artist acts in a given case. As regards the animals drawn with barbed arrows against the body, the most reasonable interpretation is that they have penetrated into the

Fig. 78. Bison pierced with arrows. Floor engraving (Niaux, Ariège). *Scale:* 1/8 (after Breuil).

flesh, but that their points are represented by transparency in spite of that fact. This interpretation is unavoidable in the case of the bison engraved on the floor of the cave at Niaux (Fig. 78, p. 92) where the representation of the arrowheads is accompanied by that of wounds.

In other cases the animal is surrounded with arrows directed toward him, but not as yet having attained their mark. Such is, for example, the fish engraved on reindeer horn from Fontarnaud (Fig. 79, p. 93). These figures enter the general formula expounded by Barnes and Levinstein in regard to the representation of actions and changing scenes, otherwise called "stories," applicable to children's drawings, after which the artist represented the "preparation" in preference to the "catastrophe."[17] This formula, exact from a purely graphic point of

[17] Barnes, "A Study on Children's Drawing," *Pedagogical Seminary,* II (1902), 461; Levinstein, *Kinderzeichnungen* (Leipzig, 1905), p. 40.

view, that is to say for that which appears in the design, seems to me insufficient from the psychological point of view, or in that which concerns the reasons that inclined the artist to take or choose this means of expression. The representation of the "preparation" permits the inclusion of certain elements which are no longer visible at the moment of the "catastrophe." The case of the arrows, barbed or not, touching the outside of an animal's body would be perhaps but a stage in the evolution to its limit of the theme of animals surrounded with arrows, differing from it only in that they are figured, not simply in the

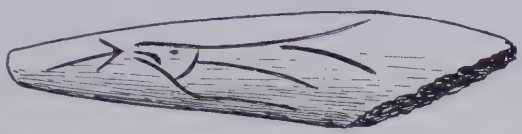

Fig. 79. Fish and arrow. Engraving on reindeer horn (Fontarnaud, Gironde). Labrie Collection (after Breuil).

course of their flight in the direction of the animal, but just at the moment of attaining their mark. In one case, as in the other, the artist would have found, perhaps unintentionally, a privileged mode of representation which conciliated visual and intellectual realism, opposed in principle. There is visual realism because the eye and instantaneous photography can register an image similar to the drawing, and also intellectual realism, since the arrow is represented in its entirety. I find here something comparable to the drawing mentioned above of animals in profile with the head shown from the front in which the nature of the attitude manifests at the same time the maximum of details as much in the head as in the body, and yet is seen in nature.

It is perhaps permissible to go farther. In numerous cases the animal threatened by arrows, as the fish from Fontarnaud, is also hit by other arrows or represented with wounds. Drawings by children and also by professionals of relatively primitive stages in the art of divers epochs and regions show, when depicting dramatic actions or "stories," a resort to the process which figures the elements of the scene that do not change, but gives the desired effect by reproducing the modifications, each of the representations corresponding to a different phase. We

may then ask ourselves whether, in Paleolithic drawings, the arrows which fly toward their victim and those which have reached their mark were not, in the thought of the artist, the same arrows considered at successive moments? We would have there a new example of the conciliation of visual with intellectual realism, not only in space but also in time. In reality an animal, especially when attacked by several hunters, could be already wounded by some arrows while others are flying toward it. Figures of this sort represent, in a sense, a scene observed. But, on the other hand, according to the profound remark of Zénon d'Elée, the flying arrow is immobile in each of its positions, and the representation of these positions is a way of rendering the successive movements of the flight of the arrow by juxtaposing them in the same picture.

We have considered several examples of the conciliation of the two realisms in Paleolithic art, and the last mentioned is particularly complicated. But the Magdalenian artists were certainly no longer novices. They had probably vaguely conceived, if not in an abstract form at least in feeling, the antagonism which we have brought out in regard to intellectual and visual realism. The existence of this sentiment in the designers of the Reindeer age is rendered more probable when we consider that our children, at about six years of age, gradually abandon intellectual for visual realism. Then we may ask ourselves whether the various cases of conciliation between the two realisms which we have considered were simply the effect of chance or if this conciliation was not rather, if not striven for, at least intentionally preferred by the Paleolithic artists.

These are, surely, but possibilities, and I will be the first to admit the strongly conjectural character of these deductions. But this does not apply to the employment of the process of transparency during the Reindeer age, which seems to me solidly established by the facts.

To summarize the results of this study, it seems to me that realism manifests itself in the Paleolithic in two ways, not only different but opposed. Visual realism is preponderant, but intellectual realism is also represented in a large measure by the figuring of elements invisible from the chosen point of view, although they can be perceived from a different position, as

by the representation of features constantly invisible (transparency). This coexistence of the two sorts of realism lasted up through the Magdalenian which is at the same time the artistic apogee of the Paleolithic and its chronological end. Consequently, if the Magdalenian epoch is far advanced in time from the infancy of art, the aesthetics exhibited in its artistic productions are yet, to a notable degree, those of children.

IV.

THE MEANING OF FIGURED ART

A STUDY of Paleolithic art would be incomplete and of little interest if, after having traced its chronological evolution, disentangled and described its processes and its style, no attempt were made to determine its significance. A human activity such as art is hardly explained if the means alone are considered and the why and wherefore neglected. What was then the object of Paleolithic art?

Two opposed explanations have been given. The one, chiefly favored in Germany, sees in this art the manifestation of an entirely disinterested aesthetic tendency. In France, despite the energetic protests of M. Boule in favor of "art for art's sake,"[1] the theory most generally adopted with more or less reserve is that expounded by S. Reinach,[2] which can be summarized as follows: The art of the Reindeer age was not in the least disinterested: it had above all a practical end and, to speak precisely, was a magical operation. Primitive peoples of all regions and epochs have had the idea that the drawn representation of a being, as its evocation in a spell, gives the author of the design a power over the original.[3]

As a necessity of their existence the Paleolithic peoples had to procure the animals which furnished their food. The figured representation of these animals was a way of favoring their reproduction, of drawing them into, and holding them in, the neighborhood, and of facilitating the chase. Here the expression "the magic of art" must be taken literally for, at the epoch, the artists were properly sorcerers. S. Reinach concludes:

[1] M. Boule, *Les Hommes Fossiles* (2d ed.), p. 262 n.

[2] S. Reinach, *L'Art et la Magie in Cultes, Mythes et Religions* (Paris, Leroux), I, 126 f.

[3] One will find a rich collection of ethnographical comparisons in *Alt.*, pp. 145–225, 236–243.

There would be much exaggeration to contend that magic was the sole source of art, to deny the part played by the instinct of imitation or that of the desire for bodily decoration, or again of the social need to express and communicate thought. But the facts seem to show that the impulse behind the art of the Reindeer Age is bound to the development of magic.

To my mind it is correct, while preserving the essential of this thesis, to hold it within legitimate bounds while discussing the very unequal value in fact and right of the arguments invoked in its favor.

The first allegations in support of the part magic plays in Paleolithic works of art rest on the character of the places where numbers of cave drawings have been executed. We shall begin by examining the obscurity of these regions which one ordinarily thinks of in relation to their distance from the entrance. But this does not always hold true, because if distance from the entrance ordinarily causes increased obscurity, there are exceptions. Indeed, the light of day can penetrate not only by the cave mouth, but also by cracks in the walls and ceilings, as may have been the case at La Mouthe.[4] Inversely, certain regions neighboring the entrance were fully lighted, as, for example, the great ceiling of Altamira.[5] Whatever the case, the obscurity of the places where the figures are found implies, it is said, that they did not have a decorative character because they could not be seen. I would generalize by saying that their object was not purely aesthetic and disinterested. But it is a mistake to infer total obscurity from natural obscurity. At the first discoveries of caves containing drawings, the natural obscurity and the supposed absence of means of artificial lighting were invoked to contest the authenticity of the figures. But now that this is no more questioned, their very existence necessarily argues that of artificial light, rudimentary if you will, but sufficient for men whose acuteness of vision, developed by their living conditions, must have been keener than that of modern city dwellers. Experience could not have failed to teach them that fire produced light as well as heat, and they might have

[4] Capitan, *Bull. Soc. d'Anthropol.* (1897), p. 488.

[5] *Alt.*, p. 2.

used torches. Furthermore, several stone lamps have been found in Paleolithic deposits.[6] A notable example is that coming from the decorated grotto of La Mouthe, the use of which can be imagined as similar to that of the stone lamps that served the Greenlanders before their contact with European civilization,[7] as it still contained in its cavity the residue of a burned greasy matter. But even if we were without indications of the means of lighting employed by the Paleolithic peoples their existence is established beyond doubt by that of the drawings.

Astonishment has been expressed at the fact that these very imperfect lamps which must have produced a great deal of smoke did not leave any trace of soot where they were used. But the big hearth in the entrance of Altamira must have produced a continuous and intense smoke which, charged with animal matter owing to the direct contact of meat with the flame, could not but leave abundant quantities of soot. Yet no black remains on the polychromed ceiling situated above this hearth.[8] The explanation of this fact has been given by Moissan: The particles of carbon of organic origin of which it was constituted were oxidized by the air and disappeared in the course of ages.[9]

Besides the obscurity of the decorated regions, certain other of their features have been remarked, such as distance from the entrance, difficulty of access, and inconvenience of situation, in which the artist had to work under great difficulty. This would seem to indicate a search for a place remote and taboo, and a comparison has been made with the fact that among the natives of Australia the painted rocks are forbidden to the uninitiated. But, without discussing for the moment the soundness of this allegation, it seems to me that the conclusions drawn exceed its premises. If it is certain that, in the majority of cases, the search for mystery is bound to magical or ritual practices, it is not inseparable from it. The ritual practices can take, on the contrary, a ceremonial and public character. Without going farther, the Mass of the Roman Catholics unites the two elements. It is a public ceremony in its *ensemble,* containing a

[6] R. de Saint-Périer, *L'A.,* XXXVI (1926), 30–39.
[7] *Alt.,* p. 232.
[8] *Ibid.,* p. 8.
[9] *Ibid.,* p. 27.

hidden feature, the "secret prayer." The same public character is found among the savages in the totemic ceremonies.[10]

Thus the principle that magical operations demand secrecy is but a contestable postulation. But those who sponsor it must at least be logical and accept its consequences. If there are figures in places other than retired or difficult of access, there is no longer any reason to attribute to these figures a magical rôle, and thus the magical theory is not of universal application. But figures of this sort are innumerable. There are first of all those which are traced on movable objects and which, by their very nature, are destined to be seen by daylight, and particularly those decorating the arms of the chase, chiefly the dart throwers, of which the supposed magic virtue is only effective in the hunt, that is to say, in the open air. Again there are all the wall paintings of eastern Spain drawn in shallow shelters and even on rocks in the open.

But let us restrict ourselves to the wall art of the Franco-Cantabrian caverns. It would be denying evidence—and this blunder is beyond us—to disregard that in the majority of cases the figures are executed in the distant parts of the caves of extremely difficult access. The accounts of the explorers and their plans of the caves indicating the location of the figures are conclusive on this point. But one could perhaps ask whether the artists searched out these places to draw their figures or if they did not trace them where they had gone for other reasons. In the cave of Tuc d'Audoubert, which is precisely one of those to which a sacred character has been attributed, traces of man's passage have been preserved in a deep portion where no work of art has been reported.[11]

Be that as it may, if the magical intention of wall figures is bound to their distance from the entrance and difficulty of access, one finds in the Franco-Cantabrian region numerous fig-

[10] Breuil, "La Grotte de la Grèze," *C. R. Acad. Inscr.* (1904), pp. 494–495.

[11] "In the corners of this long, high gallery, bones (of the bear) in piles, hardly disarranged, indicate that the beasts died there. The Quaternary men came and, disregarding the useless bones, broke the jaws, taking out the canines intended for use as jewelry. About these skeletons one found that the soil had been stamped, and in several places traces of human feet are visible" (Bégouen, *L'A.*, XXIII (1912), 659–660).

ures executed sometimes in simple shelters or, for deep caves, in the neighborhood of the entrance (La Grèze, Puy-Rousseau, Cap-Blanc, Pair-non-Pair, La Calévie, Comarque, La Croze à Gontran, Teyjat, Marsoulas, Gargas, Ayguèze, Altamira, Hornos de la Peña, la Venta de la Perra, la Haza).[12]

Further, not only have some wall figures lasted in the neighborhood of the entrances of caves, but, where they are absent, it is easily explained by destruction through vegetation, sun, rain, frost, and, farther in, the condensation of dew. Corrosion of the walls has been observed to a depth of forty meters in the Grotte Rey, sixty meters at Font-de-Gaume, ninety meters at Combarelles, and even as far as five hundred meters in caves with large mouths such as Bedeilhac or Mas d'Azil. Figures near the entrance have only been preserved when protected either by falls of rock, landslides, or an archaeological deposit.[13] Thus one may agree with the explorers of Font-de-Gaume: "The location of figures in the deeper parts, so exclusive at the first glance, is perhaps illusory and might be due to the fact that only the frescoes hidden far from the atmospheric elements escaped annihilation."[14]

In my estimation, the conclusion to be drawn from the situation of wall figures is that, besides those which appear to witness an intentional search for mystery and could thus be considered as having a sacred character, the Magdalenians executed others evincing no attribute of such a signification, and which are works of art, pure and simple. Certain facts suggest that different caves, or different parts of the same cave, sometimes the same part at different epochs, received both utilizations, profane as homes, sacred as sanctuaries. At Combarelles, the occupation of the right gallery without figures is on the whole, judging from its archaeological levels which go from the Middle Magdalenian without harpoons to the Upper Magdalenian, much later than the epoch of the decoration of the left-hand gallery, lacking archaeological remains but which, from

[12] Breuil, "La Grotte de la Grèze," *C. R. Acad. Inscr.* (1904), p. 492. *Alt.*, pp. 19, 29, 34 n. 2. *F. de G.*, p. 53. *L'A.*, XVI (1905), 433–437; XXII (1911), 385 f.; XXVI (1915), 507.

[13] Breuil, "La Grotte de la Grèze," *op. cit.*, pp. 492–493. *L'A.*, XVI (1905), 432; XXII (1911), 385 f. *Alt.*, pp. 29, 33, 233. *F. de G.*, pp. 55–58.

[14] *F. de G.*, p. 58.

the characters of its figures, may be attributed to periods of the Magdalenian much earlier than the harpoons. At Altamira and at Marsoulas some figures of the early Magdalenian, accompanied with archaeological levels of the same date, have been superimposed by polychromes without vestiges of corresponding habitation.[15]

The conclusions, more or less logical, formerly drawn from the nature of the subjects represented seem to me out of date. It was thought possible to establish a difference between the edible animals, pictured to increase their reproduction or facilitate their capture in the hunt by a magical influence, and the dangerous, undesirable animals, in particular the felines, the drawing of which would have been neglected or even proscribed. The fauna represented, as we actually know it, comprises the most varied species, as may be seen in the summary enumeration that I have given (pp. 22–26), and the numerical preponderance of the drawings of game sufficiently explains itself, without laying claim to magical intentions, by the orientation of the ideas of artist hunters.

If, in the large majority of cases, the figures are of isolated animals, these are found also associated with man in scenes of the chase. For the Franco-Cantabrian region one sole and hardly convincing example is known, the "Hunter of Aurochs" (in reality bison) from Laugerie-Basse.[16] But the wall paintings of Spain contain a certain number of specimens (Figs. 24, p. 28; 25, p. 28; 56, p. 72; 57, p. 74; and 58, p. 74). As regards scenes of the hunt there is a choice of two interpretations. Either magical operations can be seen where figured representations would have been intended to insure the success of an actual hunt, as the pantomime representations among divers primitive peoples,[17] or these scenes are simply works of art reproducing real or imaginary events without any magical intent. It seems difficult to attribute a magical intention to an *ensemble* of engravings from Font-de-Gaume (Fig. 80, p. 102) which appears to represent a group of horses attacked by a lion.

[15] *Comb.*, pp. 184–185.

[16] *Rép.*, p. 99, No. 2.

[17] H. Obermaier, *El Hombre Fosil* (Madrid, 1916), p. 245 (Annam). Lubbock, *Origine de la Civilisation* (Barbier translation, 2d ed.), p. 275 (Koussas Kaffirs after Lichtenstein).

To dispute the purely artistic character of representations of the chase, it has been alleged[18] that they show, not the hunt of big beasts of which the exceptional and dangerous character

Fig. 80. Group of horses apparently attacked by a lion. Wall engraving (Font-de-Gaume, Dordogne). *Scale:* about 1/15 (after Breuil).

[18] H. Obermaier and P. Wernert, *Las Pinturas Rupestres del Barranco del Valltorta* (Madrid, 1919), pp. 125–127.

would justify the commemoration as that of historical events, but solely of hunts of the stag, the wild goat, or the wild boar which, by their facility and commonness, were unworthy of this honor. This argument rests, to my mind, upon a psychological error. The reproduction of a scene with a purely artistic intention well proves that this scene was interesting to the artist and had drawn his attention. But both attention and interest could have been excited, not by the important or exceptional character of the scene, but on the contrary by its frequency and banality. Our own art does not present fewer pictures of this sort, *tableaux de genre,* than historical paintings. In the art of primitive peoples the scenes of daily life are portrayed at least as frequently as exceptional events, and we have an example in the engravings on bamboo from New Caledonia which have no magical intent. I do not see what magical purpose could have sponsored the painting at Minateda of a scene of such everyday occurrence as that of a mother holding a child by the hand (Fig. 81, p. 104). Much sooner than the figures of isolated animals and the complex scenes which associate hunters and game, I consider as witnessing magical intentions those particularly numerous in the Franco-Cantabrian region, both in movable and wall art, where the animals are represented as wounded, struck by arrows, or, what is equivalent, surrounded by arrows or other throwing arms directed toward them.[19] Assuredly, these figures could be considered as purely artistic representations of the chase in which the artists have neglected the hunters. From this point of view there would be only a general difference in style between the Franco-Cantabrian province and eastern Spain consisting in the frequency or rarity of human representations. Nevertheless, it seems to me most reasonable to attribute to figures of this sort a magical rôle and to connect them with the practice of spell-casting, the existence of which appears established in the Magdalenian. A quadruped (feline?) in round relief from Isturitz (Fig. 82, p. 105) carries, besides some perforations which do not appear intended as holes for suspension and thus must represent wounds, some arrows or harpoons engraved on its thighs and backbone. In the grotto of Montespan several engravings or sculptures seem to

[19] Cf. above, pp. 92–94.

have been executed solely to be pierced with holes or striped with slashes corresponding to wounds. A special mention is due to the clay statue of a bear without a head, between the front paws of which, on the floor, a bear's skull was found. As the stump of the neck exhibits a hole which may have received a peg, one could think the figure was completed by means of a natural head and perhaps, from other indications, covered with a pelt to serve in a ceremony of spell-casting.[20]

Fig. 81. A mother with her child. A wall painting in brown from Minateda (Province of Albacete, Spain). *Scale:* 1/4 (after Breuil).

One could say of the scenes of combat[21] or the isolated figures of wounded men, which are found only in the Spanish wall art, what has just been said of scenes of the chase or representations of wounded animals. The choice remains free between the images purely artistic and the magical practices destined to insure success in actual combat, with this reserve, that the intention of casting spells would be more probable for the figures of wounded men represented without their adversaries.[22] In fact, in this sphere where art often presents human figures one has not the same reason to explain the absence of hunters and enemies, as in the Franco-Cantabrian province, where these subjects are exceptional, simply by the character of the artistic style, and it is more probable that the representation of arms had been considered as possessing in itself a magical virtue.

After the human figures associated with animals in scenes of the hunt or with others in scenes of war, there remain the isolated examples. They are divided into two categories according to whether their characters are exclusively human or at

[20] Bégouen and Casteret, "La Caverne de Montespan," *Revue Anthropol.* (1923), pp. 533 f. Cf. above, pp. 9 and 11.

[21] Cf. above, p. 73.

[22] Example: Obermaier, *El Hombre Fosil* (2d ed.), p. 292, Fig. 137 (Grotte Saltadora).

once human and animal. The rarity of the figures of the first group, chiefly in the Franco-Cantabrian district, during the Magdalenian epoch, is explained easily by the fact that the artist was less interested in man than in animals. Again, their very existence proves that human, and especially masculine, representations were not the object of any special prohibition due to magical dictates.

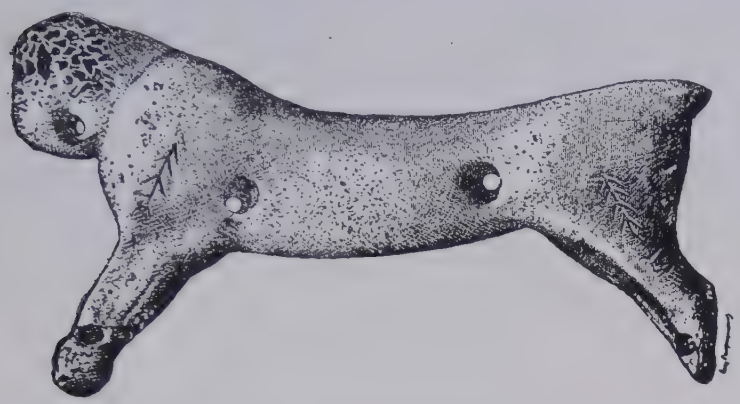

Fig. 82. Feline exhibiting perforations and engraved arrows. Sculpture in reindeer horn (Isturitz, Basses-Pyrénées). Natural size (after Passemard).

In that which now concerns the figures of mixed characters, at the same time human and animal, they seem to me, as I will explain further in detail,[23] to establish the existence of sorcerers and the practice of sorcery during the Magdalenian epoch. But here the question is different: Is there any magical value attached as such to the representations of personages having a magical function or even performing magical operations? Any assertion on this point would be obviously arbitrary, and the sorcerer of the Grotte des Trois-Frères, for example (Fig. 119, p. 198), could just as well be but the purely artistic representation of an actual happening, or a picture *de genre* comparable with the presentation of a scene of the hunt or war.

In short, if one submits the sum total of the facts known of the Magdalenian age to an impartial criticism, the only certain examples (within the limits where such a term is not excessively ambitious) of figures intended as charms by their authors seem

[23] Cf. below, pp. 184–187.

to be those representing wounded beings, that is to say, those where the magical virtue could have resided, not in the drawings themselves, but in the arms which wound or menace the subjects. In all other cases, whatever the arguments invoked, whether the question be of the topographical situation of the images or the subjects they represent, nothing permits the pronouncement of their rôle as magical rather than purely artistic. In regard to human figures, the fact that to prove them of protective magical intention designed to benefit the group to which the artist belongs, hostile magic intended to take effect against enemies is simultaneously invoked, sufficiently shows that such explanations are arbitrary. Nothing in the objective characters of the figures permits their classification under one heading in preference to the other.

To avoid the mistake of giving an infinitely complicated problem an exaggeratedly simple solution one must recognize that if the figures of wounded animals are the only ones which materially witness in their objectivity a magical intention, the other figures are by their nature incapable of manifesting such an intention. This is because the representation of an isolated animal, for example, will be exactly the same whether executed with a view to act upon the living animal, or just for the purely artistic pleasure of reproducing its form. One may then choose between contesting the magical rôle of these figures because it is not established, and recognizing it because it cannot be evidenced for some of them while it is established in the only instances where possible, that is, for those figures which appear to correspond to the practice of casting spells by images. Men who have practiced the art of magic in that form, who appear to have had magical practices of another nature and also sorcerers,[24] may very well have used the other forms of magic revealed by ethnology.

My conclusion is that Magdalenian art possibly presents works of a magical, and others of a purely artistic, end. But no certain criterion distinguishes between the two categories or determines the classification into either of any given figure.

But, of these two intentions, the first purely artistic or dis-

[24] Cf. below, pp. 184–187.

interested, the second magical and thus utilitarian, that appear to have existed simultaneously in the figure drawing of Magdalenian art, might there not be one derived from the other, and, if so, which one? In attempting to solve this problem it is necessary to go farther back into the past and look for the significance their objective characters may cause to be attributed to the Aurignacian figured works, and especially to the most ancient.

To my mind, the attribution of a magical rôle to these works is not supported by facts. Even less here than in the Magdalenian epoch could one speak of a systematic search for mystery. It is entirely out of the question as regards movable objects, that is to say, figures traced on rough-surfaced or coarsely smoothed stone, pebbles, or unworked bone. These representations, it is true, have been considered as hand exercises or sketches intended to be more carefully executed in wall figures. The hind quarters of a horse deeply engraved on a frontal bone of the same animal[25] found at the base of the archaeological layer in the vestibule of Hornos has been compared[26] to a horse's hind quarters executed on the wall.[27]

But to me this very resemblance goes counter to the conclusions drawn from it. If, for the Magdalenian epoch which presents some wall paintings of real artistic perfection, one could consider as sketches the movable art, more summary in execution, this interpretation has no longer the same foundation for the Aurignacian period where movable art had exactly the same style and was no more nor less imperfect than the wall art.

In its turn the latter presents no indication of a desire for mystery. The outlined hands and the punctuations, which are at Gargas and in all the Aurignacian the most ancient artistic manifestations, are found not only in the deep and obscure parts of the cave, but also in the lighted and inhabited portions. The outlined hands, declare their discoverers,

> commence at the entrance. . . . One follows then along the left wall just above the ancient hearth, and principally further on in a little gallery feebly lighted, and on a large surface beyond, then

[25] *Rép.*, p. 92, No. 3.
[26] Obermaier, *Der Mensch der Vorzeit*, p. 239.
[27] *Rép.*, p. 91, No. 3 (above).

opposite on the very irregular right hand wall. One can say that the vestibule . . . was, although lightly, "decorated" with them.

Also "some elemental black and red punctuations, grouped in series, are found in bands opposite the cave mouth under a stalagmitic 'pent roof.'" Besides, the unequal conservation of the figures suggests that "many, chiefly in the vicinity of the entrance, may have disappeared, in general washed away by water, several covered by calcareous deposits constantly in the process of formation."[28] In the same way at La Croze à Gontran the finger designs and the first animal figures are found within ten meters from the entrance.[29] A systematic search for remoteness is then out of the question as regards Aurignacian wall paintings.

As to the subjects represented, animals figured pierced with arrows are absent from the Aurignacian. (The lower level of La Colombière where two of these figures engraved on limestone pebbles have been found (Fig. 83, p. 109)[30] does not present any Aurignacian characteristics and must be very early Magdalenian.) The hands represented on cave walls might be considered as a symbol of proprietorship and thus, in the magical theory, as a means of keeping possession when they are over or next to animal figures, as at Castillo, but this interpretation is inapplicable to the hands of Gargas which are not accompanied with any other representation (Fig. 118, p. 196).

Human figures, exceptional in the Magdalenian, occupy an important if not preponderant place in the Aurignacian.[31] Their existence proves that the representation of the human body, and more especially of the male sexual organs, was not an object of social prohibition. Did they have a magical intention, either of protection or of hostility toward some actual persons of which they would have been the portraits? Were they idols? Of all this we know nothing. The statuette from Brünn (Fig. 104, p. 162) found in a sepulture could have played the part of a "double" intended to hold the soul of the deceased in his

[28] Cartailhac and Breuil, *C. R. Acad. Inscr.* (1907), p. 214; *L'A.*, XXI (1910), 131–137.

[29] Capitan, Breuil, and Peyrony, *Revue Anthropol.*, XXI (1914), 277.

[30] Cf. Mayet and Pissot, *L'Abri de La Colombière* (Lyon, 1915), Fig. 47 (stag).

[31] Cf. above, pp. 16–21.

tomb to keep it from coming back to torment the living. But as nothing authorizes us to attribute to the others a funerary destination, it is also possible that this specimen was simply the property of the defunct placed with his funerary furniture as part thereof.

Particularly as regards the feminine figures which are notably preponderant, a rite of fecundity has been supposed.

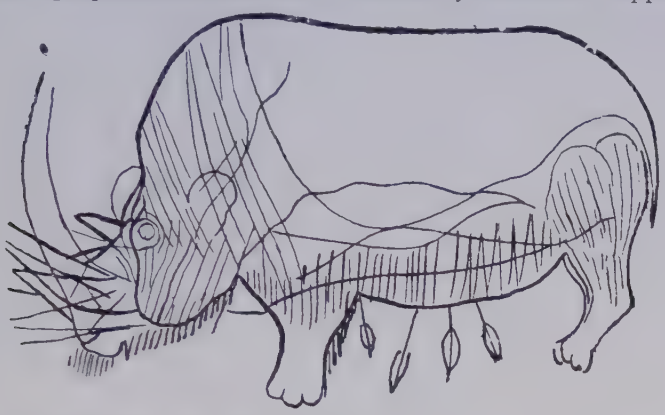

Fig. 83. Rhinoceros with arrows. Engraving on stone (La Colombière, Ain). Natural size (after Mayet).

This hypothesis seems to me extremely adventurous. The subsistence of the Paleolithic hunters was inevitably conditioned by the existence and consequently the increase of game. Thus one could admit that, if they believed in sympathetic magic, they would have had recourse to it for the reproduction of animals. But did they attribute the same importance to their own? From the economical point of view, the multiplication of hunters would bring about an increase in the competition for food, overbalancing the advantage of greater numbers participating in the hunt. Besides, the children would become of service as hunters, but at a distant maturity, long remaining useless mouths to feed. In fact different primitive peoples practice abortion and infanticide. The consideration of human fecundity by the Aurignacians as an advantage to be sought and eventually provoked by magical practices consequently remains very problematical. On the other hand, if ethnology shows various agricultural peoples having recourse to human sexual representations in order to favor vegetal fertility by

means of sympathetic magic, the hunters of the Reindeer age had no reason to resort to such a practice.

The excessive development of the breasts, the stomach, and the buttocks of a number of Aurignacian feminine figures has been taken to indicate a cult of fecundity. If one takes into account the divers analogies with the Hottentots and Bushmen and the negroid character of the two most ancient skeletons of the Grotte des Enfants, these characters may be explained by a naturalistic rendition of the actual aspect, at most accentuated in the sense of a certain aesthetic ideal. If, for no matter what reason, the representation of the child to be was aimed at in that of the woman, would it not have been logical in the figuration of a woman manifestly pregnant to have recourse to the process of transparency?[32] This particular case of intellectual realism, of which we have cited some Magdalenian examples, should correspond still better to the more infantile art of the Aurignacians which, in fact, presents another corollary of intellectual realism, the "hinging method" shown in the relief from Laussel (Fig. 84, p. 112).[33] Since they did not employ this artifice, may we not conclude that fecundity of women was without interest to them? Alluding to the relief of Laussel, is it not curious that this sole specimen that we possess of a woman joined to another human being represents not an *accouchement,* but a copulation? It is not the generative, but the voluptuous character of the woman which stimulated the author of this work. It is permissible to think that in the other feminine figures whose figured execution translated the thought of the artist, was associated much less to the idea of the eventual prosperity of the social group than to the memory or the imagination of his own sensual satisfactions.

The isolated representations, in sculpture and engraving, of the characteristic organs of the human sexes, of which the most ancient are those from the Abri Blanchard (Middle Aurignacian),[34] would provoke analogous remarks. Nothing allows

[32] Cf. Luquet, "Representation par Transparence de la Grossesse dans l'Art Chrétien," *Rev. Archéol.,* II (1924), 137–141.

[33] Cf. above, pp. 85 and 86.

[34] Didon, *op. cit.,* Pl. VII (phallus sculptured in the branch of a reindeer horn) and Pl. VIII (vulva and phallus engraved in stone). *Rép.,* p. 177, Nos. 4 and 5, gives several of the vulvic representations; in No. 6 the phallus, in combination with other lines, gives the impression of a quadruped's head.

us to attribute to these figures, any more than to those which occur in the most varied spheres, with the modern civilized as with the savages, a magic or ritual rather than a purely erotic signification.

The low number of figured works assignable to the Aurignacian, although furnishing but a negative argument of which it would be dangerous to exaggerate the importance, must, however, be taken into consideration. Even in leaving a great margin for creations which have been destroyed in the course of the centuries and for those which future excavations may bring to light, one cannot fail to be struck by the notable numerical inferiority of the Aurignacian figure drawings, in comparison not only with those of the Magdalenian, but also with other Aurignacian productions, industrial objects and manifestations of decorative art. It seems legitimate to conclude a very restrained practice of figured art. Yet this is hardly compatible with the vital interest to the community which the magical theory claims for this art. On the other hand decorative art is, as we have seen, exclusively geometric, and its motives do not appear to be derived from degeneracy of figured prototypes. If the Aurignacian peoples had granted art a magical power they would not have failed, like other hunting peoples known to us through ethnology, to decorate their tools and especially their arms with figures of living beings capable of transferring to them through analogy their qualities of speed and strength or to more generally insure their success.

Finally, and I consider this the capital argument, if the prehistoric artists have, at a given moment, executed some figured works with a magical intention, it seems impossible for this conception to have existed at the initial period. Sympathetic magic is essentially based on the idea that a power over certain beings is conferred on the artist by the act of representing them. But to be able to conceive and utilize images with a magic intent it is necessary to have first the idea of representation, to understand that artificial forms create more or less resemblant reproductions of living beings. But this idea of artificial reproduction of natural beings is the very principle of figured art. To my mind the sorcerer-artists had been inevitably preceded by artists pure and simple, and I consider it impossible for

Fig. 84. Copulation. Bas-relief on stone (Laussel, Dordogne).
Scale: about 2/3 (after Lalanne).

figured art to have been anything but a disinterested activity in its initial phase. As writes Breuil:

> If art for art's sake had not come into being, magical or religious art would never have existed. But if magical or religious ideas had not permeated this "art for art's sake," including it in the more serious preoccupations of real life, art, insufficiently esteemed, would have remained primitive in the extreme.[85]

If Aurignacian figured art did not have a magical intention, neither did it have a decorative destination. First, the statuettes, by their very nature, belong not to decorative art, but to independent art. As for the paintings (one only at the Abri Blanchard) and the movable engravings on rough objects, one may not speak of them as examples of decorative art because the supports, not having by themselves a utilitarian rôle and the stone or bone serving solely to receive the figures as a sheet of paper does with us, the figures which cover them are not "decorative." No more were they sketches of decorations for implements, as these were exclusively geometric in the Aurignacian epoch, nor, to my mind, as was said above, sketches for wall engravings or paintings. Besides, these do not seem to have had a decorative rôle because of the situation of a number of them in places difficult of access and badly lighted. Finally, the wall figures, even when traced on easily visible surfaces, and the movable figures, are often superimposed and confused. It is then difficult to imagine that the artist intended to embellish the supports with figures when their confusion made their comprehension difficult. The attribution of all these figures to a decorative intention does not seem to me more satisfactory than their justification by a magical aim.

In short, I believe that Aurignacian figured art had neither the magical destination which appeared established at least for certain figures of the Magdalenian, nor a decorative rôle which it also had at this last epoch in the ornamentation of implements, tools, or arms. Aurignacian figured art is exclusively a figured art dictated by the pleasure that the artist took in creating images of actual beings the idea of which occupied his mind.

[85] Breuil, "Les Origines de l'Art Decoratif," *Journal de Psychologie* (1926), p. 366.

V.

THE ORIGINS OF ART

AS we have seen, Paleolithic art manifests itself at its beginning in the Aurignacian under the decorative non-figured and the figured non-decorative forms. But what is the origin of these two sorts of art? Inasmuch as Aurignacian art is the most ancient known the question is of special interest, for determination of its origin would allow the rather vague and arbitrary speculations of aesthetic metaphysics to be founded on a more objective basis.

In that which concerns, first, bodily decoration, certain jewels, notably teeth, could have been trophies of the hunt intended to witness the bravery or competency of the wearer, to which the more or less ambiguous rôle of amulets or charms might have been added. But this signification could not be attributed to simple "gems" or to fossils perforated to serve as jewels and sometimes of a provenance far from the stations where they were found, such as the petrified sea urchin from the Abri Blanchard,[1] fossil fish teeth from the Magdalenian levels of Placard,[2] or the trilobite which has given its name to a cave of Arcy-sur-Cure. It is possible that at first these objects, considered only as trinkets or curiosities gathered in the same way that children and even adults of today pick up shells at the seaside, were, owing to lack of cabinets, worn by the prehistoric peoples. Consider what veritable museums the pockets of our youngsters contain. Thus these jewels would belong rather to luxury than to decoration properly called, which are two elements of bodily adornment still found among civilized peoples. Moreover, what first brought about the utilization of these objects as jewels was their form or their color, that is to say, an aesthetic appreciation. On the other hand, bodily decoration was not long in acquiring a purely decorative rôle when to

[1] Didon, *op. cit.*, pp. 29–30 and Pl. VI, No. 25.

[2] A. de Maret, *Congrès Archéologique de France* (Vienna, 1879), p. 173.

these natural pieces were added fabricated ornaments. If the imitation ivory teeth came simply from a desire to multiply the number of amulets, it is difficult to attribute a prophylactic rôle to little ivory rings or pendants and beads of varied forms in stone, bone, or ivory such as those found at the Abri Blanchard, leaving no indication of figured representation. Then, from this epoch, man had the idea that an object (his own body in this case) acquired beauty by the addition of elements meant solely to embellish, that is to say, in as rudimentary a form as one may wish, the notion of "art for art's sake."

To the same conception belong embellishments (parallel lines or notches, sometimes punctuations) which were early applied either to objects already decorative in themselves, natural as well as artificial jewels, or to objects of utility, bone tools, awls, polishers, small batons, ribs or blades of ribs, and so forth. In spite of the rudimentary and exclusively geometric character of the decoration of this epoch it presents, however, several specimens of linear design a little more complicated than parallels (chevrons, wolf-tooth, zigzag, groups or seedings of punctuations) already witnessing a certain ornamental sense.

But if these incisions on jewels or instruments soon acquired a decorative value it is probable that at the beginning their rôle was utilitarian. I hardly agree with the traditional interpretation which considers them notches recording kills or more generally numerical memory aids analogous to a shepherd's tally. If they had been intended as a sort of running account the notches would have been executed successively and separately as each of the events recorded occurred, whereas, in numerous cases, the incisions seem to have been all made at one time, and cover the whole surface or border of the object. On the other hand, in admitting that men of this epoch felt the need of statistics, the employment of these counts would suppose a certain development of numeration that ethnological analogy renders very problematical. The Indians of Central Brazil studied by K. von den Steinen cannot count farther than six and are incapable of stating the number of their children. If one insisted on attributing a symbolical rôle to some of these incisions I would sooner be inclined to see in them marks of proprietorship, distinctive signs comparable to those made by

soldiers for identification on their tableware. Another utilitarian rôle can be very reasonably assigned to some of these incisions: They would naturally produce unevenness on the implement, keeping it from slipping between the fingers and, if it was intended to be hafted, increase its adherence to the wood, retaining perhaps some material fulfilling the office of glue, also facilitating binding. Only later did man, perceiving that these utilitarian incisions produced an aspect agreeable to the eye, realize their ornamental value. This transition is particularly clear on the extremity of javelin points either conical or with a simple or double bevel intended to enter the shaft. The incisions essentially designed to assure adherence are often disposed obliquely in a more or less regular parallelism.[3] Sometimes there are two oblique rows of incisions side by side in an opposed direction.[4] In certain cases a vertical groove engraved between the two rows gives the aspect of the herringbone theme,[5] or again the two rows of contrary obliques are superimposed in a sort of trellis.[6]

My conclusion is that this primitive ornamentation seems to result from a collaboration and reciprocal action of jewels and instruments. The conception on which the primitive jewel reposes, that an object is rendered more beautiful by additions without practical utility, would have been extended from the human body to tools. Inversely, the pleasing character of utilitarian incisions on objects of daily use caused them to be repeated, not only on these objects with the intention to ornament, but also on jewels. In both cases, I consider as established at the very beginning of prehistoric art, independent of any other preoccupation, the existence and the desire for pleasure produced by certain sensorial impressions, here visual, which is the very essence of aesthetic and artistic sentiment.

Such are, to my mind, the sources of decorative art in European prehistory. It remains for me to look for the origin of the

[3] A. de Mortillet, *Congrès Préhistorique de France* (Vannes, 1906), p. 259, Fig. 26; Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 17, No. 3.

[4] Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 17, No. 4.

[5] *Ibid.*, Fig. 17, No. 1.

[6] A. de Mortillet, *op. cit.*, p. 258, Fig. 24.

other form, figured art,[7] which is also encountered from the Aurignacian.

At the outset, I believe that I am able to establish that figured art, properly called, that is to say, the intended execution of figured representations, must necessarily have been preceded by a preliminary phase in which figured works had been produced, not intentionally, but by hazard.

The intentional execution of a figured work, as all other voluntary acts, supposes two conditions, the one of an affective order, the other of an intellectual order. It is necessary on the one hand to have the desire to create, or, otherwise stated, the hope of an advantage and ultimately of a pleasure resulting directly or indirectly from the operation, on the other hand (because in order to desire one must picture that which one wishes) the idea of the performance itself, the understanding of this act as simply possible.

In that which concerns at first the affective element of the execution of a figured work, once an individual has executed one, if he finds in this execution an advantage or a pleasure, whatever it may be, he will naturally be brought to repeat this agreeable action in order to experience again the sensation that it provoked. One understands also how other individuals will follow his example through mechanical imitation. This imitation, whether in itself or by its results, giving a pleasure which brings them to repeat it, takes more and more an automatic character in conformity with the general laws of habit. But these conditions were manifestly lacking in the production of the first work of art. The enjoyment resulting from the production of a work, whatever its nature, is essentially posterior to the act or at most simultaneous when it results from the act of creation, but cannot be anterior. The individual who has not yet produced any figured work cannot then suspect the pleasure that this production will bring him, and thus cannot have the intention to produce it. It results that the first figured representation could not have been an intentional creation. The first voluntary execution of a figured work, properly called,

[7] For further details, cf. Luquet, "Les Origines de l'Art Figuré," *IPEK*, II (1926), 1–28, XXX, showing figures left out of this work through lack of space.

could have been but the intended repetition of an activity which, if it had produced an image, had produced it by chance and not by deliberate purpose. It is only following this fortuitous production, if it was revealed as advantageous or agreeable, that the desire of intentional creation can have come into being.

One arrives at the same conclusion in considering, after the affective element in the production of a figured work, its intellectual quality, that is, the ability to create images, abstraction being made of the pleasure resulting from the exercise of this faculty.

Inasmuch as the execution of a figured work of art consists in producing a result, and more precisely a modification in the form of a preëxistent material by work of hand eventually aided by instruments, it enters into the more general notion of industry. At the same time, the intention of this work is to create images, that is to say, artificial objects whose general aspect resembles that normally presented by the model through certain characteristic traits. Thus the execution of a figured work embraces the synthesis of the two ideas of industry and resemblance. Then voluntary execution, characteristic of art, properly called, is only possible if this synthesis has been first effected in the mind of the artist in the form of a consciousness of the power to create images.

When the Aurignacians produced their first artistic creations they were in possession of these two ideas. The idea of resemblance exists already under the living form of recognition among animals devoid of industry, such as carnivores and herbivores recognizing the animals and plants which make up their diets, and, moreover, it is difficult to imagine how a creature could subsist if it were not capable of knowing the objects and more generally the circumstances which demand a certain adaptive reaction on its part. If this recognition can be founded on varied senses, for example, that of smell, in certain cases at least it rests on a visual resemblance. A child is capable of recognizing from their aspect not only actual objects, but even images from an age averaging the beginning of the second year, and the same visual ability has been observed among different animals.

The first Aurignacians possessed both the idea of industry

and that of recognition. Tools and arms gathered in excavations, the most ancient coming from the Lower Paleolithic, had already acquired with the Aurignacians a very advanced technical perfection, proving that they had the habit of craftsmanship, hence consciousness of an ability to modify preëxistent material by work. More particularly, they knew how to trace lines. In bone, reindeer horn, and mammoth tusk, they dug furrows which, deepened, served to divide the raw material into more workable pieces or to render the objects already fashioned more practical, and finally to decorate their instruments or jewels with a rudimentary ornamentation. The scratching and polishing applied to bone, and perhaps also body painting for which it sufficed to dip the fingers in color, furnished a technique applicable to figured art.

Thus the Aurignacians were in possession of two elements, that of industry and that of resemblance, the synthesis of which constitutes the idea of figured art. But the elements are not the synthesis. An individual can be conscious of his industrial ability and possess also the notion of resemblance without attaining the realization that his work can create likeness. In fact the child, even when it observes that other persons possess the graphic faculty, is not yet conscious of having it also.[8] This is all the more reason for the first prehistoric artist to be ignorant of this faculty, because, at first, he lacked the experience of artistic creation on the part of others. Some fortuitous circumstances must have revealed to him his ability to create images. In the same way that a child finds some resemblance to real objects through a vague analogy of aspect or circumstance which guides his interpretive fancy in a particular direction relative to the lines which he has traced without intention of drawing, the first Aurignacians may have found resemblances in the lines which they had drawn or more generally in the forms which they had created without figured intention. As the idea of game was constantly present in the mind or at least in the subconsciousness of these hunters, they were naturally inclined to recognize animals in such fortuitous images.

What, then, were these lines traced without figured inten-

[8] Luquet, *Le Dessin Enfantin* (Paris: Alcan, 1927), pp. 142–143.

tion where the artist later found a resemblance to actual objects or beings which brought him gradually to a voluntary reproduction of them? One could imagine that such lines were executed to decorate, since decorative art, at least in an elementary form, existed previously to the most ancient figured works incontestably belonging to the Aurignacian. But the decorative rôle of these marks is precisely an obstacle to their receiving a subsequent figured interpretation. For a designer to find in his work a resemblance to some object when he did not intend it, it is necessary that the tracery offer to his interpretive fancy, as developed as one may suppose it to be, some possibility of application, or, to put it otherwise, that it present to the eye a slight resemblance to some object or being.

This happens in the first drawings of our children, to which an adult can apply, as does their author, a figured interpretation, although they have been traced without any wilful resemblance to any object. But to what is this due? On the one hand to their being executed without any intention other than to trace lines, and on the other to the clumsiness of their execution as simple lines. Entirely lacking in purpose, they can assume any form. Besides, lacking muscular control and the firm direction of a trained hand to which habit has not yet given sufficient assurance, the pencil, receiving no resistance from the paper, produces lines prolonged almost indefinitely, all over and sometimes farther than the dimensions of the sheet, finally turning back and meandering about the page, becoming entangled. Briefly, the first childish traces produce figures relatively complicated and confused that, owing to their characteristics, even when they really resemble nothing, can present to an imagination so rich and free as that of the child resemblances with the most diverse and unexpected objects.

The conditions would have been the opposite for an Aurignacian who would have passed directly from decorative art to figured art. The intention to produce lines, not at random, but ornamental lines; the reduced size of tools or jewels which he decorated with incisions; the resistance that opposed his graver in the hardness of the material, stone, bone, cervidae horn, or ivory; finally, the ability acquired by the practice of decorative art itself, all concurred to make him produce some short, regu-

lar, precise, and spaced lines which, by these very characters, did not offer any occasion for a figured interpretation. For this reason it seems to me impossible to derive figures from decorative lines. Thus one must look for their origin in lines traced with no more a decorative than a figured intent, but simply for the sake of execution.

But from the beginning of the Aurignacian, that is to say, from an epoch more ancient or at least contemporaneous with the earliest figured works, the most rudimentary manifestations existed, corresponding to these conditions. The clay covering

Fig. 85. Digital designs on a clay layer, cavern of Gargas (Hautes-Pyrénées). Above, the lines seem to represent the skull with the horns and the back with the tail of a quadruped (bison ?) ; below, on a jutting angular rock, a head seen from the front with two eyes and a muzzle (after Breuil).

the walls and ceilings of different caves has preserved the traces of figures drawn across it, sometimes confused, interlacing in all directions, sometimes forming sufficiently regular assemblages of parallel, horizontal, or vertical lines.[9] In certain cases,

[9] *L'A.*, XXI (1910), 139, 144; *Cant. Cav.*, pp. 93–95, 194–195.

for example in La Croze à Gontran[10] or at Hornos de la Peña,[11] these figures appear more clearly as intentional. They form parallel curves, spirals, serpentines, meanderings, and interlacings traced with the fingers (generally three) of the same hand, and perhaps in certain cases with a fork made from branches or a toothed instrument forming a sort of artificial hand. The traceries of this kind, wherever superposition of

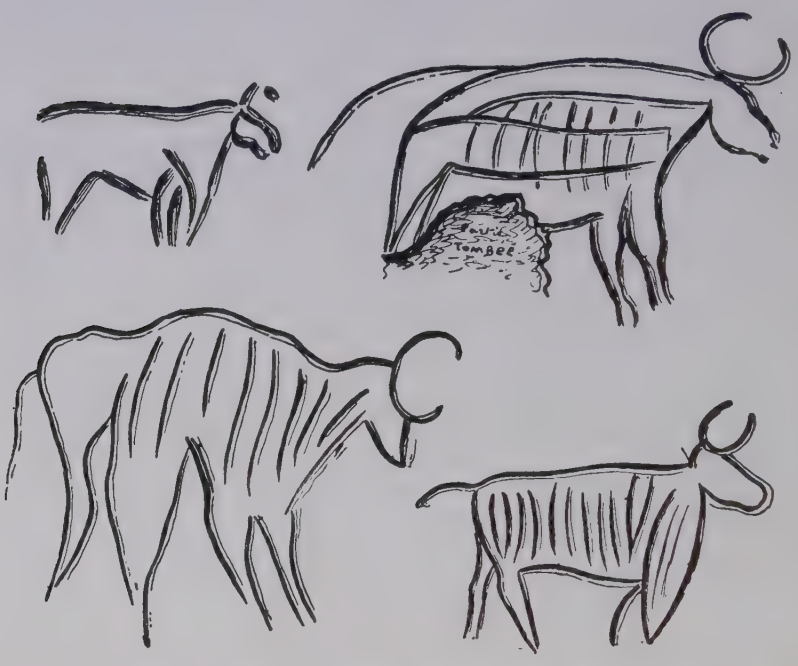

Fig. 86. Bovidae. Aurignacian designs traced on clay with the finger (La Clotilde de Santa Isabel, Province of Santander, Spain).
Scale: varying, about 1/10 (after Breuil).

figures furnishes sure chronological indications, are the most ancient and seem to me without any figured interpretation. Probably their authors themselves attributed none to them. But they were already lines voluntarily traced by human activity on a support. Analogous traces, more liable to figurative interpretation, have been found at Gargas (Fig. 85, p. 121) but with

[10] Capitan, Breuil, and Peyrony, "La Croze à Gontran," *Revue Anthropol.*, XXIV (1914), 278, Fig. 1.

[11] *Rép.*, p. 94, No. 4.

longer, more sinuous and complicated lines which, by their aspect, merit the expressive name of "macaroni" given them by their finders. In fact, in one of these macaroni a resemblance to a muzzle from the front, in another a likeness to a forehead and back, and perhaps even the hind quarters and tail of a horned animal can be found. These last seem to me examples of a resemblance obtained fortuitously, similar to those I have mentioned in the drawings of children. They could, as with children, suggest intentionally completing the drawing, then of creating the whole, man having gained the idea that, since he

Fig. 87. Bison. Digital traces on the clay layer of the ceiling in the cavern of Gargas (Hautes-Pyrénées). *Scale:* much reduced (after Breuil).

had already made one, he could as well make others. Next, one comes to the drawings of animals, yet extremely coarse, but already recognizable, encountered at La Clotilde de Santa Isabel (Fig. 86, p. 122), at Hornos,[12] and to those at Gargas (Fig. 87, p. 123), a little less imperfect, still all traced on clay with one finger, the resemblances in which can hardly be considered as accidental and unpremeditated. These digital lines on a soft surface are analogous, if one makes abstraction of their figured character, to incisions (lines or points) executed on tools or jewels with a decorative intention, and thus the technique of the graver can be transferred from ornamental to figured art. La Croze à Gontran brings together specimens of these different stages of the origin of figured art. It presents at once digital designs analogous to those of Hornos, multiple parallel incisions which are but the repetition with the graver of the digital lines, finally some animal silhouettes, incised with one

[12] *Rép.*, p. 93, Nos. 1–4.

line, which are only a counterpart, done by the graver on hard material, of the animal figures executed with one finger at Gargas. Gargas and Hornos present an analogous grouping of the specimens of different stages of the beginning of figured design which I have just described. On the fallen frieze of Alta-

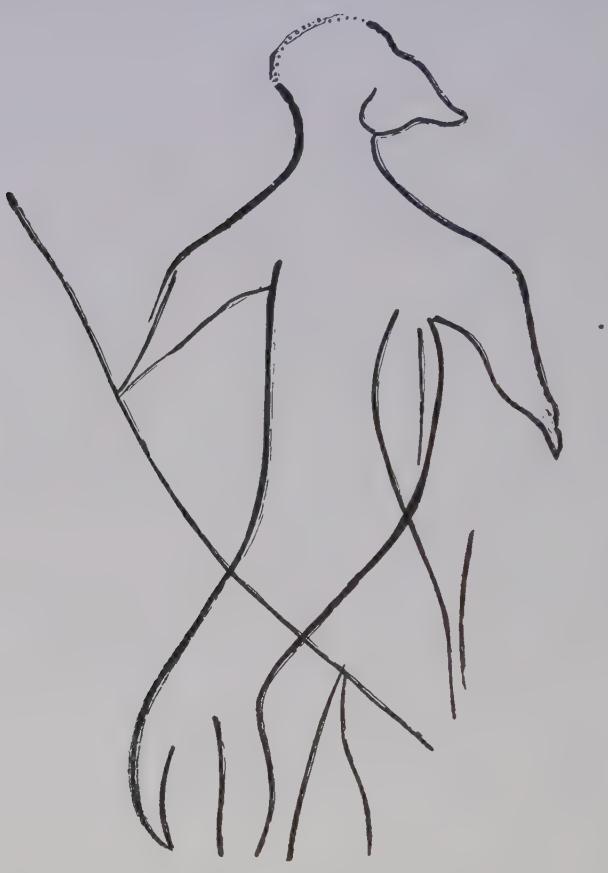

Fig. 88. Human figure. Aurignacian engraving on the right side of the fallen frieze of Altamira (after Breuil).

mira (Figs. 89, p. 125, and 90, p. 126) and on the ceiling of Tuc d'Audoubert[13] are found parallel incisions which are again a burin-traced reproduction of the finger lines at Hornos or at La Croze à Gontran.

[13] Bégouen, *L'A.*, XXIII (1912), 658.

The evolution of these digital lines into veritable drawings is particularly clear at La Pileta (Province of Malaga) in figures, not traced on soft clay, but painted in yellow on the solid wall. They are at first simple parallel lines, fairly long, straight, curved, or presenting a variable number of undulations. These lines, taken separately, seem to have brought about figures which, executed by the same process, would be intended for serpents. Some of these parallels meet in a point at one extremity

Fig. 89. Aurignacian figures. Left side of the fallen frieze of Altamira (after Breuil).

or, in one case, at both. In others, one of the extremities comes to a point while the opposite end presents a swelling suggesting the head of a serpent, occasionally preceded by a constriction. The swelling, of variable form, is sometimes divided in two lobes which suggest distended jaws from which in certain cases issues a line corresponding to the tongue. It seems to me impossible for the resemblance of all these figures to snakes to be purely accidental, and for the designs, at first arrived at fortuitously, not to have been remarked and purposely reproduced.

In my opinion, just as these isolated serpentiform lines brought about intentional representations of the snake, their

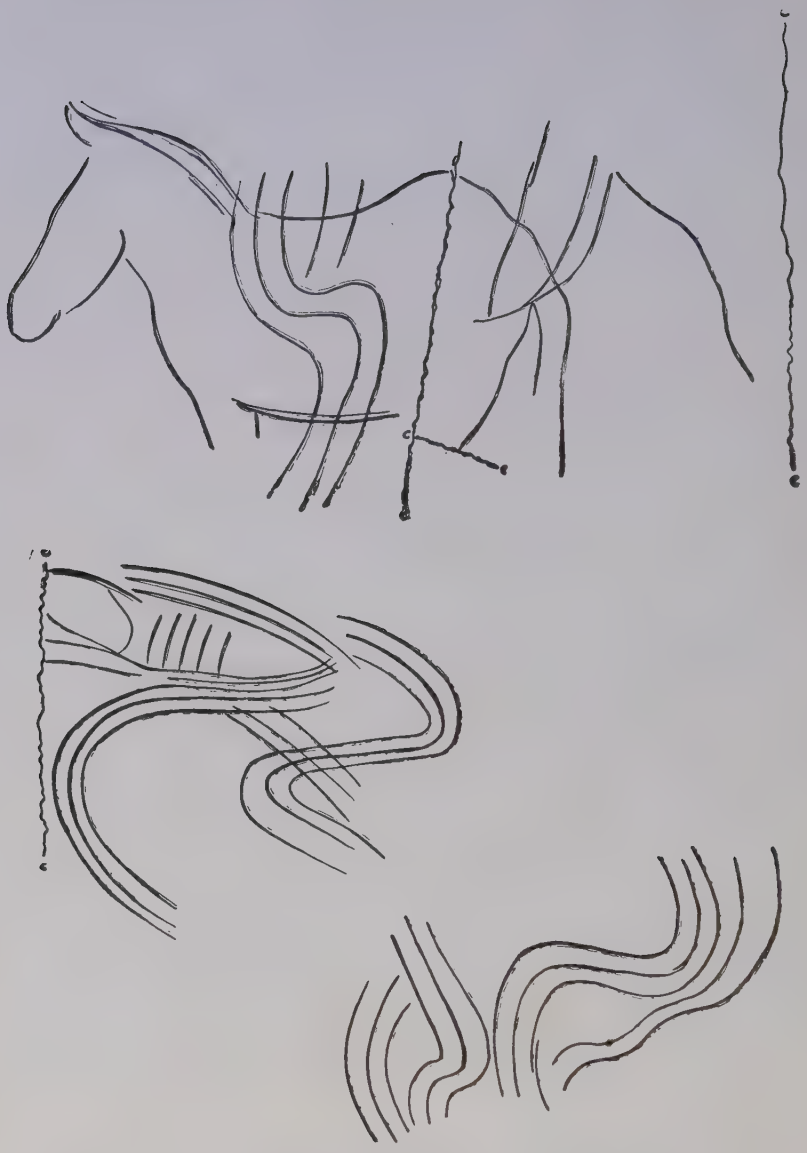

Fig. 90. Aurignacian figures. Middle portion of the fallen frieze of Altamira (after Breuil).

evolution resulted, as in the macaroni of Gargas, in some further complicated figures of animals. The tracings of parallel lines are sometimes arranged without any order, sometimes disposed alternately, sometimes running together, so to speak, and embracing one another. In most cases the artists seem to have lacked any idea of drawing an object in executing these complicated figures, but to have taken pleasure in a game of lines. But in at least one of them I can certainly see, what the artist could well have seen, even without looking for it, the aspect of an animal, quadruped or bird, in profile, standing on one foot. Whether or not this transition is hypothetical, it brings us to the figures where the same technique of parallel lines is found exhibiting an incontestable zoömorphic intention such as the head and shoulders of a wild goat, the head and shoulders of an ox, and an entire animal which seems to be a rhinoceros.[14] In several parts of the contour of these figures the parallels run into a single line. Finally, the primitive technique is entirely abandoned and one sees profiled animals executed with a single line—horses, wild goats, does, oxen, all similar to the Aurignacian zoömorphic paintings of Santander.[15]

But we are not at the end of our pains, and the difficulty of solution still remains before us. If digital lines may have brought about intentional figured drawings, they themselves, nevertheless, remain to be explained.

These figure lines devoid of both figured and decorative intention, which are found not only on the sides of Paleolithic caverns, but in the most varied places such as the walls of our streets, may be explained as simple spontaneous manifestations of the personality of their author, mechanical attestations of his passage, a rudimentary signature.

Finger streaks without either figured or decorative intention, but premeditated, have probably been in their turn intentional repetitions of involuntary tracings. Perhaps, in exceptional cases, the imprints resulted from a slip causing the toes to leave on the floor, or the fingers on the wall, a long mark. This is most certainly so for the markings of the crudest sort at Altamira, Gargas, and Hornos, left on the clay-covered walls from which

[14] *La Pileta,* Pl. III.
[15] *Ibid.,* p. 19.

the plastic coating was taken for some utilitarian purpose[16] and for the painted lines from La Pileta which were left on the walls in drying a hand soiled with clay.[17]

It is also very probable that intentional drawings may have been inspired by chance images arising from different sources. Men who depended chiefly on hunting for their food would most probably have been able to distinguish trails and remarked that each animal leaves a characteristic footmark on the soft earth, that of the horse differing from that of the bison, rhinoceros, or felines, as the track of a web-footed bird differs from that of a wading or gallinaceous species. Indeed, claw marks and even the footprints of bears have been preserved down to the present time and were discovered on the floor and walls of the caves of Font-de-Gaume, Gargas, Betharram near Lourdes, Tuc d'Audoubert, Altamira, Hornos de la Peña, la Cova Negra, La Pileta, and Castillo.[18] The last-mentioned cave furnished the following instructive peculiarity: On the walls of the last gallery on which are painted a series of red disks arranged in long rows, a bear has left his claw marks across a red line devoid of definite significance, but belonging to a technique of animal line drawing of the most ancient phase of Paleolithic wall art, and the scratches themselves have been covered by a big red disk.[19] The early Aurignacian who added the disk must certainly have seen and most probably recognized the track of a bear.

But not only animals left imprints on the ground, but the feet of men walking, and their hands and knees when crawling beneath the low roofs of caves or through thickets made similar marks in the dust and wet soil. The Abbé Breuil at Niaux[20] and Count Bégouen at Tuc d'Audoubert[21] have discovered such im-

[16] *Cant. Cav.*, pp. 194–195.

[17] *La Pileta*, pp. 17–18.

[18] Breuil, "Traces laissées par l'Ours des cavernes," *Revue Préhistorique* (March, 1908), p. 65. Cartailhac, "Les coups de griffes d'Ours," *L'A.*, XIX (1908), 113. Bégouen, *C. R. de l'Acad. des Inscr.* (1912), pp. 536–537; *L'A.*, XXIII (1912), 659–660. Cartailhac and Breuil, *Alt.*, pp. 43–44; *L'A.*, XXI (1910), 142. *F. de G.*, pp. 29–31, and Pls. XLVI, XLVII, XLVIIIb; *Cant. Cav.*, pp. 91, 115–116. *La Pileta*, pp. 6, 13, 14.

[19] *Cant. Cav.*, Fig. 104.

[20] *C. R. Acad. Inscr.* (1907), p. 222.

[21] *Ibid.* (1912), pp. 536–537; *L'A.*, XXIII (1912), 659–663. In one of

pressions which appear to date from the Magdalenian epoch. Noticing that he had thus, although unintentionally, produced images, the Aurignacian might well have conceived the idea of intentionally producing others by a process analogous to that which appears to govern a child's first attempt at drawing.[22]

As regards this, we are not reduced to forming a mere hypothesis founded on analogy, for authentic examples of intentionally executed handprints have been found. These belong to the Aurignacian and are not mere accidental concave impressions left in soft earth, but actual drawings done in color on a hard surface. These were obtained by two processes. The hand soaked in liquid color was applied to the surface and left thereon its imprint. Or, when the hand had been placed on the naturally wet or purposely moistened surface, and even (as in the Gargas examples) where the surface had been tinted with a ground coloring of a different shade,[23] the color was then applied all around either with the hand or with the mouth so as to leave a silhouette surrounded by a field of color.

The first of these processes (printed or transfer) is only seen in a few examples at Bedeilhac (in black)[24] and at Altamira (a red hand on the larger ceiling) (Fig. 91, p. 130). The examples of the second process (outlining) are much more numerous and have been found at Altamira (Fig. 91, p. 130), Castillo,[25] Font-de-Gaume,[26] Combarelles,[27] Abri Labatut of the Roches de Sergeac,[28] at Beyssac near Vieil-Mouly (Dordogne) (one hand in red),[29] at the Grotte David* at Cabrerets (Lot),[30]

the rooms, claw marks of the bear and footprints of men have been found together.

[22] Luquet, "Le Dessin Enfantin," *op. cit.*, pp. 147–148.

[23] *L'A.*, XXI (1910), 134.

[24] *F. de G.*, p. 118.

[25] About fifty hands outlined in red; *Rép.*, pp. 42–43; *Cant. Cav.*, Figs. 106–108.

[26] Four hands outlined in black, one of them particularly clear, the others faded and hidden by later paintings (*F. de G.*, p. 72, note, and Fig. 83).

[27] *Comb.*, Fig. 41.

[28] Hands outlined in red on fallen blocks in the Upper Aurignacian level, but probably older (Capitan, Breuil, Peyrony, "Nouvelles Grottes Ornées de la Vallée de la Beune," *L'A.*, XXVI (1915), 518).

[29] *Ibid.*, p. 518, and Fig. 13.

[30] *L'Illustration*, No. 4206 (Oct. 13, 1923), Fig. p. 359.

* TRANSLATOR'S NOTE: Now renamed Pech-Merle.

Fig. 91. Panel on the right side of the Altamira ceiling. Outlined and printed hands. Horses in flat red, engraved cervidae (after Breuil).

in the lateral galleries of the Cave of Trois-Frères (red hands associated with alignments of red and black points as at Castillo),[31] and, finally, at Gargas (Fig. 118, p. 196). The last mentioned are the most numerous as well as the most interesting examples, for they can be accurately attributed to the remotest Aurignacian and are at least as old as, perhaps older than, the wall drawings of Pair-non-Pair.[32]

The representations of hands obtained by one of these two processes can apparently be explained only by the theory that they are the voluntary imitation of imprints accidentally made in soft earth.

The Aurignacian colored hands prove that man was already aware of his power to create images at least of his own hand. Facts show that he did not stop there but sought to apply the process of tracing to the production of further images. The explorers of Gargas discovered on the sides of this cavern

> a plump little hand together with the wrist of a very young child, isolated fingers and sometimes a thumb independent of a partly effaced hand, while on a piece of rock jutting out in the corner where the first hands were observed, a series of five fingers are arranged so as to form a decorative design. Not far off is a silhouette of the thumb and first finger of the right and left hands joined together. . . . Another outline on a red back-ground recalls that which might be obtained by the head of a tibia or humerus.[33]

The examples at Gargas are attempts to attain more varied figures by means of the tracing process first applied to the entire hand.

To my mind, the curious feature which characterizes a large number of the outlined hands in this cave would be explained by the same intention. One, several, or even all the fingers are without the first two joints (Fig. 118, p. 196). These figures are generally considered to be the result of the use of mutilated hands as patterns. For reasons which will be developed further[34] it seems to me much more probable that the majority at least

[31] Mainage, *Les Religions de la Préhistoire*, p. 217, n. 25.
[32] *L'A.*, XXI (1910), 143.
[33] Cartailhac and Breuil, *L'A.*, XXI, 135.
[34] Cf. below, pp. 195–199.

were executed with intact hands having the fingers folded in such a way that divers results were obtained.

In short, the process of mechanical design had been, from Aurignacian times, gradually extended from the whole hand to parts of the hand, then to isolated fingers, and, finally, to different objects. It is permissible to suppose that actual imprints, not colored, at first fortuitously produced by a simple impression in soft earth, furnished a point of departure for an analogous process in the same way as children, having remarked the imprint of their feet in the snow, take pleasure in throwing themselves down at full length "to make their portrait."

By one or the other of these ways which I have indicated, leaving aside others equally possible but lacking foundation, the Aurignacians surely arrived at the realization of their ability to create certain images, not only by chance, but by a deliberate process. All figured art was in the seed, and that seed only needed development. It sufficed that the individual, having established his ability to create images of certain objects, attempt to extend that ability to the production of different images. Aurignacian art presents an example of the evolution of mechanical design to drawing properly called, analogous to that found in the drawings of children or the stencils of the present day, where a hand done from a pattern has been completed by additions actually drawn. I refer to a small left hand printed in black at La Pasiega similar to the red hand at Altamira. One can distinguish perfectly the five fingers and the fleshy parts of the palm.[35] The Altamira hand had been regularized with a brush.[36] That of La Pasiega was prolonged by an arm designed in black and very faded which itself was perhaps attached to a body today almost entirely disappeared. I believe I find at Santian another example of a little more advanced stage in the evolution of mechanical design to drawing properly called. A sort of frieze formed by the wall of the cave presents a group of fifteen red figures.[37] They are real paintings and not simply impressions obtained by the mechanical process of tracing or pattern. But the subject treated connects them

[35] *La Pasiega*, Pl. XXV.

[36] *Alt.*, p. 76.

[37] *Cant. Cav.*, Figs. 32–35 (part only reproduced in *Rép.*, p. 176, No. 1).

with mechanical figures of which several are indubitably a hand prolonged by an arm. Others present a different and more or less enigmatic aspect. It seems that the form of the hand has been schematized and stylized in the first type. In the second the fingers are more like toes, while others suggest the shaggy feet of animals. But all form a homogeneous *ensemble* characterized by the patent presence of a long and straight band recalling the human arm. Thus it is permissible to suppose that the artist, probably the same one for all the figures, saw the difficulty of stenciling in the place where it had been effected, and had the idea of doing the hands in painting as he had seen it done

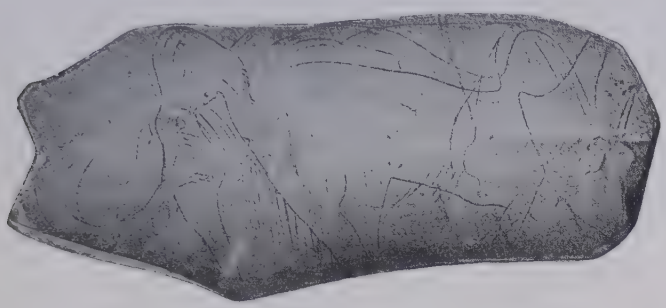

Fig. 92. Mammoth. Engraving on a blade of ivory (La Madeleine, Dordogne). *Scale:* 1/3 (after Ed. Lartet).

mechanically by others if not by himself. Then the form of his paintings, executed clumsily owing to the difficulty of the situation, would have suggested the idea of representing different objects, but on the whole similar, which may be compared to the growth of the graphic repertoire of our children, thanks to what I call fruitful clumsiness.[38]

It is also possible that before tracing a complete figure on an entirely bare surface, the Aurignacian at first limited himself to the materially easier and psychologically simpler operation of intentionally completing a resemblance which he had remarked and judged imperfect in images that were not his work.

Paleolithic drawings show examples of additions and corrections applied by someone subsequent to the author. It is proper

[38] Luquet, "Le Dessin Enfantin," *op. cit.*, p. 53.

to use prudence in interpreting figures of this kind, for, leaving aside accidental superpositions, the corrections can be alterations applied by the originator himself. One can cite as examples the mammoth from La Madeleine (Fig. 92, p. 133); a doe from La Pasiega, where the ears are represented twice in different positions;[39] the big doe on the ceiling of Altamira

Fig. 93. Head of a horse. Wall engraving (Font-de-Gaume, Dordogne). *Scale:* 1/4 (after Breuil).

which exhibits behind its two ears a third badly placed and incompletely effaced by the artist (Fig. 75, p. 90); from Font-de-Gaume an engraved horse (Fig. 93, p. 134); a light graffito mammoth which has two foreheads and three tusks;[40] a polychrome mammoth, where the engraving presents two eyes, only

[39] *La Pasiega*, Pl. XXVII.
[40] *Rép.*, p. 71, No. 3.

one of which has been picked out in paint;[41] and two polychrome reindeer (Fig. 94, p. 135), where the male (to the left) exhibits two engraved contours for the muzzle and the lower part of the head, of which only one has been outlined in color, and where

Fig. 94. Reindeer facing one another. Polychrome wall paintings (Font-de-Gaume, Dordogne). *Scale:* about 1/15 (after Breuil).

the muzzle of the female is figured twice in engraving and but once in color.

[41] *F. de G.*, Pls. LVI and XIV, No. 2 (the faulty eye has not been figured in the drawing of Fig. 36, reproduced in *Rép.*, p. 71, No. 1).

In any case it seems legitimate to consider as examples of alterations applied to pictures by others than their authors divers paintings in La Pasiega and more so three oxen of La Vieja later transformed into stags by the simple addition of an antler.[42] It is also very probable that the action of the wild boar from Altamira was changed from galloping to walking, as the galloping legs remain visible (Fig. 95, p. 137).

Whatever may be the modifications applied to the oldest images, in all the epochs of the Paleolithic one finds numerous figures which have been determined by the shape of the support to which the artist has applied more or less important modifications.

In divers examples, the form of an already fashioned instrument has, it seems, suggested the idea of accentuating the more or less vague resemblance which it bore to some real being. In the double-barbed harpoon from Mouthiers (Charente), the shaft has been rendered as a serpent with the head formed by the basilary swelling. Engraved lines indicate the eyes and the spotted skin.[43] The inferior part of a reindeer-horn blade found in the lower Magdalenian levels of the Grotte du Placard has the coarse form of a feminine abdomen with the beginning of the thighs. This approximate resemblance had been accentuated by scratches of the burin figuring the lips and hair of the vulva.[44] In the same levels some reindeer-horn buckles in the general form of an arch evoke by their divergent terminal points the idea of a horned head. Two of these objects are decorated with incisions representing the nostrils and the eyes, accompanied in one of them with horns.[45] In the head of a well-known Magdalenian "baton of commandment" in reindeer horn from the Gorge d'Enfer (Dordogne),[46] the two lateral projections have been rendered as phalli where the urinary duct is clearly apparent. But, whereas one of the projections carries on its two sides the indication of testicles, the other seems to have

[42] *Rép.*, p. 4, below on the right, and p. 5, No. 1, below. The addition of the antler is particularly visible on the ox to the right.

[43] *Ibid.*, p. 160, No. 1. (The two faces are analogous.)

[44] *Ibid.*, p. 171, No. 7.

[45] Breuil, "Paléolithique Supérieur," *op. cit.*, Fig. 23, Nos. 7 and 8.

[46] *Rép.*, p. 82, Nos. 1 and 2.

been also interpreted as a coleopter with the figuration of the wing cases and, on one of the faces, two eyes. Here is what I call an example of the "graphic pun."

Fig. 95. Walking wild boar altered from a galloping boar. Polychrome wall painting (Altamira, Province of Santander, Spain). *Scale:* 1/15 (after Breuil).

Other bone and stone pieces without utilitarian destination also manifest an artificial accentuation of their natural form. The Abbé Breuil has drawn our attention to a flake of bone in the Museum of Mont-de-Marsan, found at Brassempouy, where

a chance break suggested somewhat the form of an equidae head which was completed by the engraving of the nostrils, mouth, an ear, and an eye. He found also in the Magdalenian station

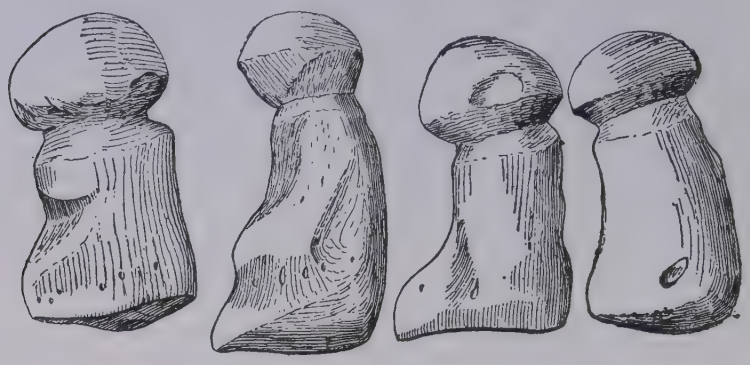

Fig. 96. Human statuettes in mammoth metacarpals (Przedmost, Moravia). *Scale:* about 1/4 (after Breuil).

of Bois du Roc, at Vilhonneur, a flint nucleus vaguely resembling the head of a hare or marmot in which the natural

Fig. 97. Rock paintings in red utilizing natural rock forms (cavern of Niaux, Ariège). To the left, head, neck, and shoulders of a horse (upside down). To the right, wounded bison, the back (in punctuations) is made by the contour of the rock. *Scale:* 1/8 (after Breuil).

unevenness bore a certain likeness to eyes. A series of lines traced by man simulate the whiskers while between them are two brought together that recall the split nose of the hare. Although

it may be difficult to recognize exactly the animal intended,[47] the intervention of an artist who proposed to accentuate the natural forms of the pebbles is incontestable.

On a piece of stalagmitic concretion found in the upper level of the cave of the Mairie at Teyjat, which in its *ensemble* suggests the idea of a human head, a vigorous scratching of flint has figured an eye at the proper place.[48] A piece from Les Eyzies is still less contestable. It is a pebble of which the natural bizarre form, in the shape of a rounded head, has been

Fig. 98. Engraved sketch of a bellowing bison. Polychrome painting. The dorsal line utilizes a natural accident in the rock (Altamira).
Scale: about 1/20 (after Breuil).

completed on each face by the addition of an eye, a nostril, an ear, and a line for the mouth. On the opposite end, another eye and an ear perfect a likeness to the head of a horse, its general contour having also been evoked by the natural form of the

[47] *L'A.*, XII (1901), 110. Through an amusing slip, the "marmot" of this page has been changed to a "mammoth" under the pen of certain authors.

[48] *Rép.*, p. 181, No. 1.

object.[49] Some equidae phalanges discovered by Piette at Mas d'Azil have likewise been altered by a few incisions representing the nostrils and the eyes of horses as suggested by their general shape.[50] Perhaps one should classify in the same cate-

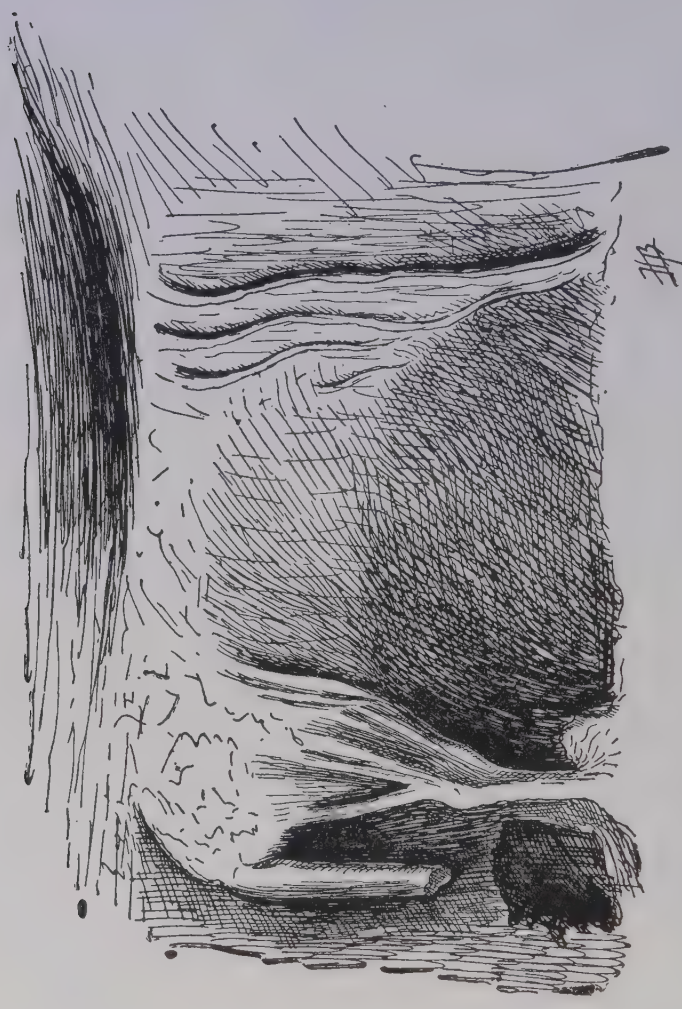

Fig. 99. Natural rock reliefs utilized to paint a horse in modeled black. The feet and tail are formed by stalagmites (Font-de-Gaume) (after Breuil).

gory the five rudimentary human statuettes from Przedmost (Moravia), fashioned from the metacarpals of the mammoth, the natural form of which might have suggested the human

[49] *Rép.*, p. 68, No. 2.
[50] *Ibid.*, p. 149, Nos. 7–12.

body and the idea of artificially accentuating the resemblance, in an extremely coarse manner (Fig. 96, p. 138).

The figured utilization of natural accidents is particularly clear in wall representations. One can mention numerous examples from Sireuil, Combarelles, Font-de-Gaume (Figs. 99, p. 140, and 101, p. 143), the cave of Marcenac at Cabrerets, Marsoulas, Niaux (Fig. 97, p. 138), Portel, Mas d'Azil, Tuc d'Audoubert, Covalanas, Pindal, Hornos de la Peña, Castillo, La Pasiega, and Altamira. Their enumeration would be tiresome. I will restrict myself to the discussion of several particularly characteristic polychromes from the ceiling of Altamira. Voluminous projections which, in the firelight, might have resembled the backs of animals, suggested the idea of completing the images with color. The adaptation of the figures to these rock accidents was as clever as possible.[51] The galloping wild boar, later altered to a walking action (Fig. 95, p. 137), embraces the contour of a very slight relief.[52] The dorsal line of a bellowing bison (Fig. 98, p. 139) is figured on a rocky projection which seems to have determined the attitude given to the head, of which it forms the back part. A standing bison was modeled on a lump with rounded contours, the most abrupt edge following the withers and loins of the animal while its other side identifies itself with the flat part of the surface. The natural relief has been accentuated by the shades of the painting, while a fissure limits the forehead and forms the contour.[53] A huddled-up female bison has been painted on a big projection of the ceiling, with only the horns and tail on the flat surface.[54] A hunched-up bison occupies another relief with rather steep regular contours (Fig. 102, p. 144).[55] The head and flank of a recumbent bison looking back (Fig. 69, p. 84) utilizes the accidental form of the rocky surface. The head occupies a projection of which the abrupt edges are followed by the forehead and the muzzle, detaching itself strikingly from the flat base

[51] *Alt.*, p. 231; *L'A.*, XVI (1905), 641–642.
[52] *Alt.*, p. 90.
[53] *Rép.*, p. 14, No. 3; *Alt.*, p. 102.
[54] *Rép.*, p. 13, No. 4; *Alt.*, p. 106.
[55] *Alt.*, p. 108.

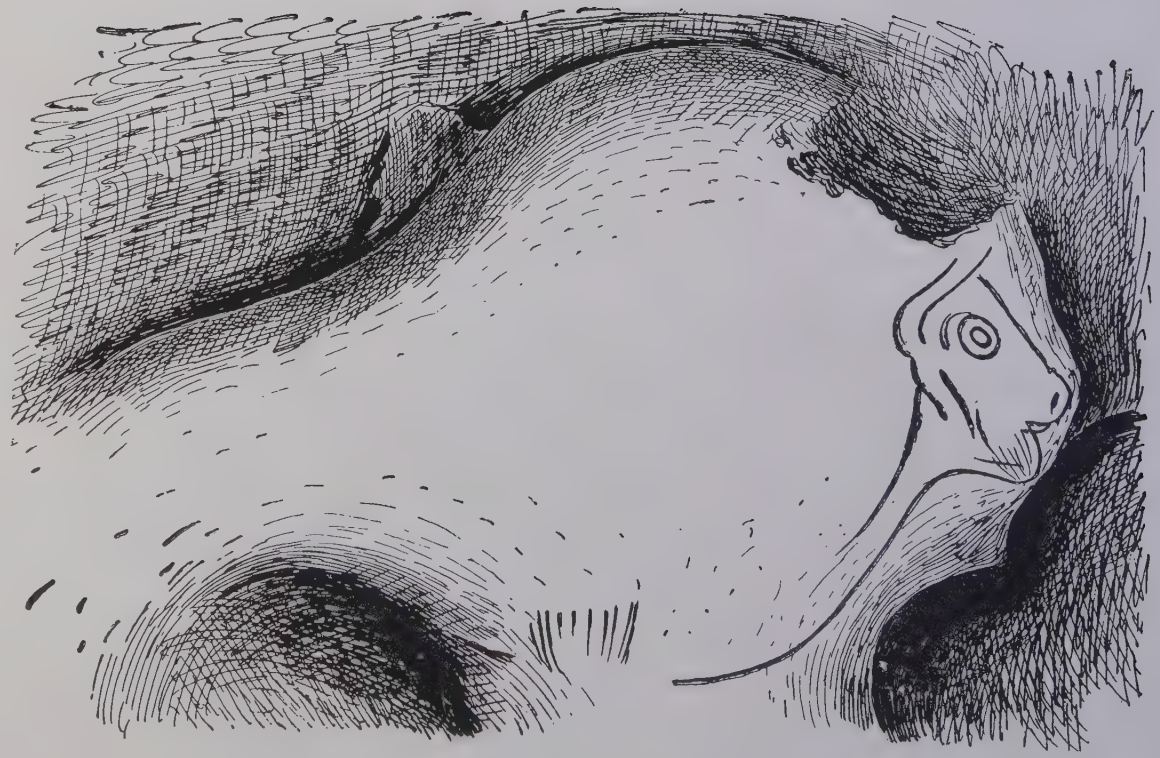

Fig. 100. Natural rocky relief utilized for the figure of a bison (Font-de-Gaume, Dordogne) (after Breuil).

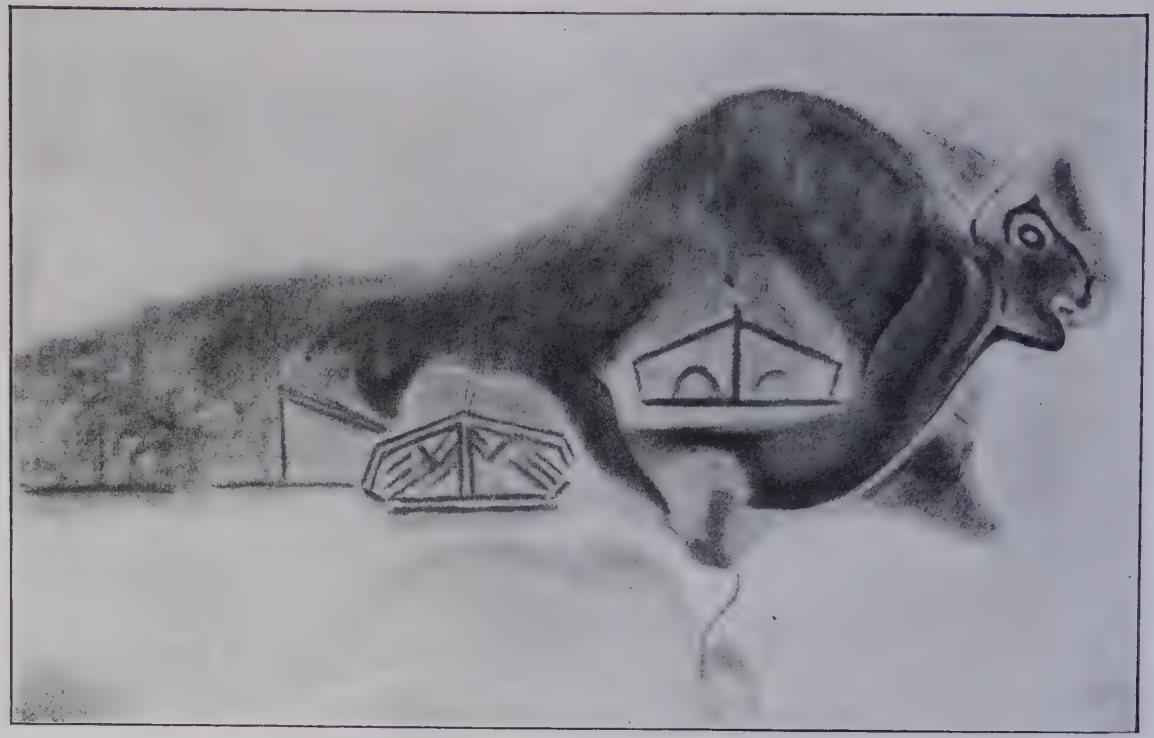

Fig. 101. Bison. Polychrome painting completing the engraving of the accidental rocky formation shown in Fig. 100 (Font-de-Gaume). Tectiform signs were later superimposed (after Breuil).

of the body. The thigh is intelligently placed on a boss with gentle contours to which it owes a very pronounced relief.[56]

Speaking of the utilization of these surfaces, one must beware of any ambiguity which could easily degenerate into misconstruction. It would seem compulsory to take literally the word "utilization" and to suppose that the artist, having already the intention of making an image, searched for a place the natural form of which facilitated the execution of the composed figure. I believe it is more probable that the artist, not having any precise intention of drawing, was inclined to do so

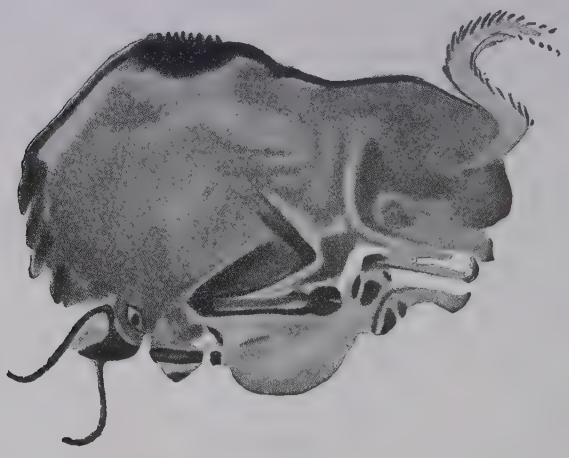

Fig. 102. Hunched-up bison. Polychrome rock painting (Altamira, Spain). *Scale:* approximately 1/25 (after Breuil).

after having perceived a natural form of which the aspect suggested the idea of a figure. I would grant that at the apogee of the Magdalenian, when the existence of skilled, if not of professional, artists must be admitted, there was a systematic search for natural accidents in view of their figured utilization. But I am convinced that in the majority of cases, and chiefly during the primitive epochs, there was much less adaptation of natural accidents to premeditated ideas than the suggestion by them of utilization. For example, it seems to me unlikely that in the figure of Portel[57] an artist having already the idea of

[56] *Alt.*, p. 106; *L'A.*, XV (1904), 642.
[57] *Rép.*, p. 172, No. 6.

painting a human figure would have searched out a rock prominence to furnish him the phallus.

This conception of the veritable rôle of the utilization of natural forms in Paleolithic cave art seems to me again confirmed by intrinsic considerations relative to the wall figures themselves. The forced attitude of certain animals at Altamira (Fig. 102, p. 144),[58] that is ordinarily interpreted as a manifestation of school mannerism or convention, could be due simply to the natural form of the rock reliefs used for the figures, apart from the horns, feet, and tail. Cartailhac and the Abbé Breuil, who appear to have a marked preference for the thesis of premeditated utilization of natural accidents, remarked that "thus they obtained with little difficulty the effect of colored bas-relief." But their descriptions are of so scrupulous an objectivity that, in spite of their theoretical opinion, they draw attention to a feature which contradicts them. Indeed, if these lumps of rock may have suggested the idea of the representation of an animal, they were hurtful to its effect after execution, making it impossible to seize the *ensemble* of the figure for, owing to their extreme convexity, one side only can be seen at a time. It is due to this that the Abbé Breuil has been compelled to figure the animals in flat in his publications, as if the reliefs did not exist.[59]

All the examples that we have just brought forward to establish the persistence throughout the Reindeer age of the artistic utilization of natural accidents, that is to say, of the influence of these accidents to determine and to provoke the execution of these figures, come from epochs when figured art already existed and when consequently the artist had already seen and without doubt executed other figured works not explained by this suggestion. But other cases, although naturally scarcer, seem to belong in the beginning of the Aurignacian, that is to say, the appearance of figured art. I would consider as examples of figured utilization of rocky surfaces, where artificial additions are reduced to a minimum, certain pendants, rock fringes, and natural reliefs of Castillo and Pindal spotted with red.[60]

[58] Cf. *Rép.*, p. 13, Nos. 2 and 4.

[59] *L'A.*, XV (1904), 641; *Alt.*, pp. 78 and 108. Cf. *Cant. Cav.*, Pl. XCI, the perspective of part of the polychrome ceilings.

[60] *Cant. Cav.*, Fig. 64 (Pindal) and Fig. 112 (Castillo) (missing in *Rép.*).

The alignment of marks on the edge of chance formations could simulate a mane, and another isolated dash seems to correspond to an eye in two specimens where I would see, in an extraordinarily coarse form, the equivalent of the red horse head of Niaux (Fig. 97, p. 138). Other examples are less contestable. On the fallen frieze of Altamira, beside the curved parallels which are the engraved reproduction of the digital marks with several fingers, the vertical line figuring the forehead of a quadruped (horse or doe ?) coarsely engraved, follows the angle of the rock (Fig. 89, p. 125). La Croze à Gontran, which goes back to the Lower Aurignacian, and which has already furnished us with several specimens of the different phases of the beginning of figured art, presents two engravings of the horse of which the head is made, partially in one, entirely in the other, by an accident in the shape of the rock.[61] It consequently appears to me legitimate to consider the voluntary accentuation of a resemblance perceived in natural accidents as one of the sources of figured art among Paleolithic men as among our children.

Perhaps even this artistic utilization of *lusus naturae* commenced at a yet more ancient epoch than the Aurignacian, in the Lower Paleolithic. Certain prehistorians, adopting the idea formerly upheld by Boucher de Perthes, considered as "figure stones" certain pebbles, generally flint nuclei, which bear an approximate resemblance to actual beings and in which this natural likeness would be accentuated by retouches which seem to them intentional. Up to the present, in spite of the efforts of its defenders, the theory of "figure stones" has met with indifference or hostility among the majority of the prehistorians. It is certain that in most of the alleged pieces the eyes of faith are necessary to perceive the figured resemblance and above all the intentional retouches. Here, as in the analogous case of eoliths, the intervention of man remains very problematical. Yet it does not seem inadmissible in certain choice specimens. But in my opinion, even when the material aspect of these pieces does not forbid their being considered as figure stones, we are stopped by a difficulty of a psychological order. A study of childish drawing seems to me to establish that a fortuitous

[61] *Revue Anthropologique,* XXIV (1914), 277 and Figs. 2 and 3.

resemblance does not suffice to give to an individual the idea of completing it but that it is necessary besides that his ability to create resemblance be revealed to him by the involuntary production of such. No fact proves the existence in the Lower Paleolithic of this accidental production of images, and one perceives nothing in the lithic industry of this epoch which could have furnished the occasion. Thus, to my mind, the greatest prudence must be observed regarding this question.

In short, the first figured work executed by the first Paleolithic artist could not have been suggested by the imitation of an earlier artist since by definition there had been none. And the origin of figured art, as any other sort of voluntary activity, could not explain itself by imitation properly called, The only remaining possibility is auto-imitation, that is to say, the intentional repetition by an individual of an activity which he had already exercised without having done it purposely. In this case intentional repetition of movements of the hand had produced an image which had not been the aim of the artist.

Again, as long as our children can be our only basis for new observations, and they do not establish that an individual can attain consciousness of his ability to create images before having produced them himself and the simple understanding of this faculty in others, we must admit that not only for the first artist but for his contemporaries and successors, the first figured works resulted not from an imitation of former artists but from auto-imitation. The problem of the beginning of Paleolithic figured art is then reduced to first determining what were the activities which at this epoch could have created images without the intention to create, then by what process an individual who had produced these fortuitous images arrived at the intention to execute others by sculpturing an unsuggestive material or by drawing lines on an originally blank surface, that is to say, a solid not presenting before the artist's work any resemblance with the object finally represented.

It seems to me that the first fortuitous images which suggested the idea of making others voluntarily, in furnishing the occasion of a figured representation, could not have been the work of a decorator, and I have tried to discover their probable origins.

Once the consciousness of his ability to create images was awakened, Paleolithic man might have thought of using this gift first to complete, judging them insufficiently resemblant, either the images fortuitously produced by himself, or natural accidents presenting some likeness to beings that especially interested him, and finally to create entirely the figures the execution of which was at first more or less clumsy and coarse, but intentional.

To some extent we may now understand how art of a magical destination, which, as we have seen,[62] was forcedly preceded by a disinterested activity, could have sprung from it. While the civilized adult, accustomed to see and even to execute figured representations, finds it entirely natural that his hand, aided besides with instruments made expressly for the purpose, leaves on a support some lines making an image, our children consider this ability to create resemblances as a faculty reserved to grown-ups and of which they at first imagine themselves devoid. When they gradually arrive at the understanding that they have themselves also produced a resemblant drawing (or one so judged by their obliging imagination) it is to them the revelation of an ability at once creative and miraculous which, by these characters, partakes of magic. The expression is not mine but that of a psychologist recalling his memories of childhood.[63]

But, besides, it is an established fact that childish and savage psychology confuse the artificial image with the corresponding actual being. If, as it is infinitely probable, the Paleolithic people had an analogous mentality, the artist who made, for example, an engraving or a sculpture of a horse considered himself as the creator not only of the figure, but of a veritable horse. The creative character of figured art is the common fundamental of first its disinterested charm for the artist, then the belief in its magical virtue.

[62] Cf. above, pp. 111–113.

[63] H. T. Lukens, "Einige Bemerkungen über malendes Zeichnen im frühen Kindesalter," *Aus dem pädagog. Universitäts-Seminär zu Jena,* VII (1897), 154.

PART TWO

RELIGION

VI.

THE CULT OF THE DEAD

BEFORE attempting to examine as far as possible the conceptions and beliefs of Paleolithic man regarding the dead, we must interpret in a very broad, and at the same time very objective, sense the term "cult of the dead." By it we mean all the practices, of whatever nature, to which Paleolithic man deliberately subjected human bodies, thereby proving that he recognized a difference between them and animal remains.

The existence of such practices was long denied owing to an *a priori* conception. The cult of the dead, although in the abstract it may be distinguished from true religion in that the latter centers around beings which, at least in principle, have never been men, is the manifestation of a sentiment closely akin to religious feeling. Funeral rites could thus supply an argument in the controversy of religious feeling as an essential characteristic of man. G. de Mortillet, who long exercised a sometimes beneficial, sometimes detrimental, influence on prehistoric research, was an irreconcilable opponent of *homo religiosus* and thus negatively exaggerated scientific prudence which was then quite legitimate owing to the ambiguity of the known facts. Following his lead it was the custom, in dealing with documents of unquestionable Paleolithic age, to consider the appearance of funerary rites as explained by chance. This happened in the case of the "Crushed Man" of Laugerie-Basse (Dordogne). Inversely, when the funerary practices could not be doubted, the sepultures were attributed to the Neolithic, as occurred in the case of the first discoveries of Grimaldi.

But more recent finds, particularly those resulting from the excavations carried out by the Prince of Monaco at Grimaldi in 1901, have definitely settled the question, even in the eyes of confirmed skeptics.[1]

[1] *Grim.*, II, 3–18, 299–302.

At present if we have no proof of funerary practices during the Chellean and the Acheulian epochs, the men of which are little known to us even from an anatomical point of view, they did exist in the Reindeer age and as early as the Middle Paleolithic (Mousterian).

It will without doubt be convenient, before going into the facts in detail, to give a list of the principal finds, classified not in the order of their discovery, but by the period to which they belong.

From the Mousterian comes the discovery of the skeleton of a young man about sixteen years old at Le Moustier by Hauser in 1908; the skeletons found at La Ferrassie by Capitan and Peyrony, a man in 1909, a woman in 1910, and two children in 1912; the skeleton discovered in 1908 by the Abbés Bardon and Bouyssonnie in Bouffia Bonneval at La-Chapelle-aux-Saints (Corrèze); and the two skeletons found in 1886 by MM. de Puydt and Lohest in the terrasse in front of the cave of Spy near the mill of Goyet (Province of Namur, Belgium).

To the Aurignacian epoch belong the headless skeleton discovered in 1823 by Buckland in the cave of Paviland on the coast of Glamorganshire (Wales) and called the "red lady," although it was probably that of a man; the skeleton found in 1881 by the Marquis of Rochebrune at Les Cottés (Vienne); the remains of five individuals, particularly of a man about sixty years old, exhumed in 1868 by L. Lartet at the shelter of Cro-Magnon; the skeleton found in 1891 at 4 m. 50 cm. depth in the loess of Brünn (Moravia); the twenty skeletons, of which fourteen were entire, found in 1894 by Maska at Przedmost; the skeleton found in 1910 by Hauser at Combe-Capelle (Dordogne); the skeletons (two women, one of which was accompanied by two very young children, and three men, one of which was about twenty-five years of age) discovered in 1923 and 1924 at Solutré by Messrs. Depéret, F. Arcelin, and Mayet; and, finally, the *ensemble* discovered in the Grimaldi caves.

There are, in the Grotte des Enfants, the two negroid skeletons (an adolescent of sixteen to eighteen years of age and an old woman), discovered in 1901 by Canon de Villeneuve at 7 m. 75 cm. depth, the skeleton of a man in a hearth at 7 m. .05 cm. depth and that of a woman found at 1 m. 90 cm. depth

in the same excavation, the skeletons of two children four and six years old encountered at 2 m. 70 cm. depth by E. Rivière in 1874–75 and to which the cave owes its name; in the Grotte of Cavillon, the masculine skeletons discovered in 1873 by the same searcher (an adult at 3 m. 90 cm. depth, an adolescent about fifteen years old a little higher up, an adult in the middle of the hearth at 3 m. 75 cm.); at Barma Grande, the skeleton found in 1884 by Julien along the left wall at 8 m. 40 cm., the three skeletons stretched side by side discovered at about 8 m. depth by Abbo in 1892 (a man, a youthful woman, an adolescent about fifteen years old), the other skeletons also found by Abbo in 1894, at 1 m. 60 cm. above the preceding one, but also much nearer the back of the cave, and of which the second, situated about 80 cm. from the feet of its nearest companion, was somewhat incomplete and entirely carbonized.

To the Solutrian epoch belong a skeleton discovered at Solutré in 1869 by the Abbé Ducrost and very probably the skeleton of a man about thirty years old discovered in the middle cave of Klause at Neu-Essing (Bavaria) (dug by the Institut de Paléontologie Humaine in 1913).

Finally, as for discoveries of the Magdalenian age, we have the "Crushed Man" found by E. Massénat in 1872 at Laugerie-Basse (Dordogne); the skeleton discovered the same year by L. Lartet and Chaplain-Duparc under the Abri Duruthy at Sordes (Landes); the bone remains of an adolescent of sixteen to eighteen years of age found in 1894 by Tournier and Guillon in the oldest hearths of the Reindeer age in the cave neighboring the mill of Hoteaux (Commune of Rossillon, Ain); the skeleton of an old man about sixty years of age found in 1888 by Féaux and Hardy under the shelter of Raymonden (Chancelade); the two skeletons, one masculine, the other feminine, of Obercassel, near Bonn, of which the discovery was published in 1914 by Verworn.

A decisive proof of a funerary intention is furnished by the artificially dug ditches in which a certain number of bodies have been found, and which begin in the Mousterian epoch. At La Ferrassie, if the skeleton of the man was laid in a slight and apparently natural depression about fifteen centimeters deep which ran in the back up to the rock wall, the shallow concavity

in which the woman's skeleton was placed seems to have been slightly deepened to make room for it. In any case, there is no doubt about the artificial character of the ditches in which were found the much damaged remains of the two children immediately neighboring the two preceding skeletons. One of the two trenches, 30 cm. deep and 30 cm. wide, had been dug in the Acheulian level underneath.[2] The skeleton of La-Chapelle-aux-Saints was stretched in an almost rectangular ditch 1 m. 45 cm. long, 1 m. wide, and about 30 cm. deep, dug in the marly floor of the cave.[3] At Grimaldi, the two negroid skeletons from the Grotte des Enfants lay in a grave about 75 cm. deep, dug in the hearth in such a way that the nape of the adolescent reposed on the clay layer beneath.[4] The skeleton found by Julien at Barma Grande lay in a shallow ditch lined with a bed of stones. The trench in which the three skeletons reposed side by side was manifestly artificial.[5] The skeleton from Hoteaux was found in a small ditch.[6]

A second style of sepulture, sometimes combined with a ditch, sometimes employed alone, consisted in surrounding or covering the bodies with hard materials such as stone or fragments of bone. At La Ferrassie the male skeleton was surmounted by several stones, one between the stomach and the right leg, another against the left forearm, and two or three others placed on the head, which was crushed by their weight. Besides, the whole body was covered with a sort of dressing of bone flakes, almost all of which showed traces of utilization.[7] The skeleton of Le Moustier was also found under fragments of animal bones, its head resting to the right on a pillow of flint flakes.[8] The skull of the skeleton of La-Chapelle-aux-Saints was pressed against a corner of the ditch, wedged in by several stones and

[2] Breuil, *L'A.*, XXXI (1921), 343–344.

[3] Bardon and Bouyssonie, *L'A.*, XXIV (1913), 630.

[4] Boule, *Les Hommes Fossiles*, 2d ed., p. 276; Verneau, *L'A.*, XIII (1902), 567.

[5] *Grim.*, II, 298.

[6] *Ibid.*, p. 308.

[7] Breuil, *L'A.*, XXXI (1921), 343–344.

[8] Hauser, *Archiv für Anthropologie*, N. F. VII (1909), 290. Cf. H. Weinert, *Der Schädel des eiszeitlichen Menschen von Le Moustier* (Berlin, 1925).

covered with large plaques of bone.[9] A collective sepulture, which seems of pre-Solutrian age, has been discovered by Maska in the station of Przedmost (Moravia). In the unturned loess, directly underneath intact levels dated by all the Pleistocene fauna, twenty human skeletons were gathered together under a veritable dome of stones, as is yet the custom among arctic peoples. Fourteen of them, perfectly protected by the stones, were complete. The fragments of six others were found mixed with different animal bones, close to the preceding, and in the same archaeological layer. They had been gnawed by carnivores whose teeth had left evident traces.[10]

The excavations of Grimaldi furnished concordant data. In the case of the man discovered by Rivière in the cave of Cavillon, the base of the head and the back as low as the pelvis had been laid on several large untrimmed stones.[11] In the Grotte des Enfants, the head of the masculine skeleton found at 7 m. .05 cm. depth was under a large and heavy stone (which, sinking little by little, exerted a pressure on the skull resulting in unfortunate consequences) and surrounded by an irregular blocking with a little plaque of sandstone placed "like a nimbus." At the level of the feet, five stones, covering a space of 80 cm., had been fixed edgewise, in a manifestly intentional disposition.[12] The feminine skeleton found by Canon de Villeneuve was, after the notes taken by him at the time of discovery, "surrounded by blocks, two big stones having been planted vertically, one in the middle of the thorax, the other at the base of the pelvis as if to fix the body in the grave."[13] The head of the old negroid woman was found between two blocks with a third resting horizontally on them like the table stone of a dolmen. They had been brought together with sufficient care to form a small hermetic inclosure which was empty of earth when discovered. There must have also existed a headstone, but

[9] Bardon and Bouyssonie, *L'A.*, XXIV (1913), 629–630. Cf. Boule, *Annales de Paléontologie*, 1911, pp. 118–123, and Figs. 4–9.

[10] Maska, *L'A.*, XII (1901), 148.

[11] E. Rivière, *De l'Antiquité de l'Homme dans les Alpes-Maritimes*, Paris, 1877, p. 131.

[12] *Grim.*, II, 23 and 262.

[13] *Ibid.*, p. 277.

it was not seen in place by Canon de Villeneuve.[14] At Barma Grande the skeleton discovered by Julien was covered with a voluminous block abutting at one extremity against the wall, thus forming a sort of tomb. The body lay on a bed of stones with its head wedged between two large ones.[15] The man found by Abbo above and in back of the triple sepulture was covered in part by three pieces of limestone. Two of them, placed one above the legs, the other above the thighs and the lower portion of the body, rested directly on the ground. The third, of irregular triangular form, measuring 70 cm. by 66 cm. and which covered the upper part of the trunk and head, leaned on three other blocks of limestone of from 25 to 35 cm. diameter.[16]

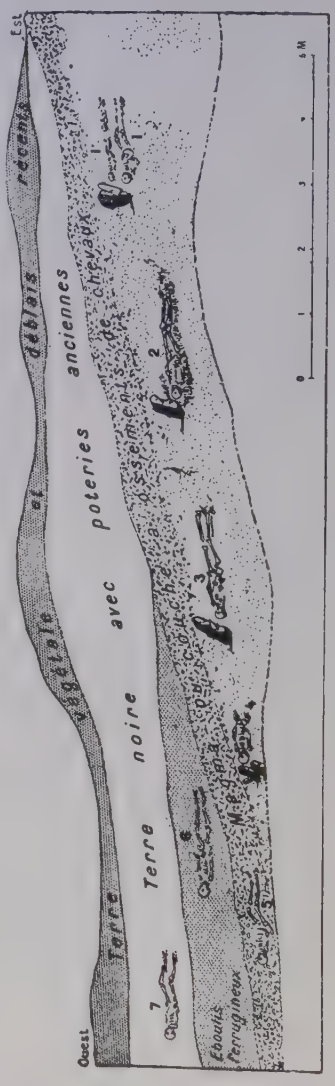

Fig. 103. Aurignacian sepultures at Solutré (Saone-et-Loire) (after Depéret, Arcelin, and Mayet).

Each of the three Aurignacian skeletons (a man and two women) discovered at Solutré had on both sides of the head two limestone blocks averaging 50 cm. in height and placed vertically, taken from the rock of Solutré. They did not descend to the level of the head, and are considered by the finders as simply location marks for the sepultures. Of the two skeletons found in 1924, that of the woman did not have any slab. That of the man was accompanied by three uprights, one on each side of the

[14] *Grim.*, II, 23.

[15] *Ibid.*, p. 22.

[16] R. Verneau, *L'Homme de la Barma-Grande, Baoussé-Roussé* (1908), p. 101.

head, and a third, perpendicular to the others, behind his skull. The five skeletons were in careful alignment east to west with the feet to the east and each separated from the other by an interval approximately equal to the length of a human body (Fig. 103, p. 156).[17]

The skeleton of La Klause was inclosed between rocks fallen from the ceiling and which had been moved a little to make place for it. Above and below the head was found a great mass of mammoth tusk fragments transformed into breccia and possibly connected with the funerary deposit.[18] A big stone had been placed behind the head of the skeleton of Hoteaux.[19] The drawing published with the discovery of the skeleton of the Cave Duruthy shows several blocks placed on the skull.

Besides the existence of ditches and rudimentary tombs, one can still consider as an indication, if not of a cult, at least of a respect for the dead, the entirety of a good number of the skeletons found. Bodies simply abandoned on the surface of the earth or even superficially buried, as the rudimentary implements at the disposal of the people of this epoch justify, would offer an easy prey to carnivores, and chiefly to the hyena. In fact divers indications suggest that at Grimaldi the sepulture of the woman discovered by Villeneuve in the Grotte des Enfants and that of the man found at 3 m. 90 cm. depth at Baousso da Torre had been violated by these animals. Thus the bodies whose skeletons have been found intact must have been protected against the attacks of prowling beasts by the continuous occupation of the shelters where they were buried, which, besides, is proved by archaeological remains. There must then have been, at least in certain cases, a cohabitation, if one may use the term, of the living and the dead. Without speaking of the odor, the presence of the corpses was surely very unpleasant, solely because of the place they occupied. If, then, these troublesome bodies were not removed, it is without doubt because some forbidding motive impelled the survivors not to touch them.

The bodies kept in the shelters were exposed to other dangers than the attack of beasts, which ceased when putre-

[17] *La Nature*, Paris, November 3, 1923, and February 14, 1925.
[18] *L'A.*, XXV (1914), 261–262.
[19] *Grim.*, II, 308.

faction was sufficiently advanced. From the very moment that the bones were no longer held together by the flesh they would have been dispersed if not lost altogether by the coming and going of the inhabitants unless special care was used. But in the case of the two skeletons of La Ferrassie, which do not seem to have been covered with earth, the bones were found in their proper anatomical connections. Apart from several phalanges of the right hand and foot, which had been disarranged and replaced on the breast, the skeleton of the man was intact. In the feminine body, only the lower part was intact, the thorax and the left shoulder having disappeared, while the skull was broken and scattered (the lower maxillary in contact with the left knee and a fragment of the left temporal near the elbow). But the damage to the trunk is explained by the position of the body, which was not horizontal but oblique, the upper part slightly raised.[20] Hence, when after a certain time the body became covered with earth or the *débris* resulting from the occupation of the cave, its upper part, less protected than the legs by this accidental covering, was more easily scattered. Thus it seems then that, during a certain time, the bodies were at least materially respected by the survivors.

One can yet consider as an indication of a kind of respect for bodies during Paleolithic times the fact that many of the skeletons found in the excavations were accompanied with ornaments which we have described in detail.[21] Admittedly, these had in themselves nothing specifically funerary. They had without doubt belonged to the deceased, who must have worn them during his life, at least on special occasions, and perhaps continuously, because jewels and amulets representing a certain value, possibly the wearer's total fortune, were safer on him than elsewhere. In the case of bodies which had not been the object of an intentional interment we have no way of knowing whether the ornaments were placed on the deceased as a sort of final toilette or whether they had been left by the survivors as part of the costume worn at the moment of death. In any case, even in this hypothesis, it is worth while remarking that the bodily decorations, which represented a considerable fortune,

[20] Breuil, *L'A.*, XXXI (1921), 343–344.

[21] Cf. above, pp. 42–45.

had not been removed. This proves that the corpse more or less protected the ornaments, that somehow it rendered them taboo and thus inspired in the survivors a kind of respect.

Besides the ornaments that they wore, a number of the bodies were accompanied with a rudiment of funerary furniture which seemed to have been placed in the grave to accompany them in posthumous life. From the Mousterian epoch, one notes at Le Moustier the large bones and the remarkably worked flints, a hand axe and a scraper, beside the left arm of the skeleton. The skeletons of La Ferrassie were covered with Mousterian artifacts of an entirely exceptional dimension and artistry, not in the least burned, in spite of their presence in the midst of black ashes.[22] Above all, at La-Chapelle-aux-Saints quite characteristic traces of funerary furniture have been found in the neighborhood of the skeleton both in the grave itself and on the ground in its immediate vicinity. From the grave, besides the flints, among which are some of the finest of the shelter and which were removed by a workman digging without the knowledge of the excavators, the discoverers published divers flint flakes of various colors, quartz, rock crystal, more or less retouched (in particular some beautiful scrapers and scratchers), several fragments of a very ferruginous sandstone but not real ocher, and a little round, flat pebble. Beside the ditch was found near the feet of the skeleton a considerable number of objects, chiefly a beautiful scraper of black flint, and by the head some well-worked flints and quartzite flakes. Also on the right, near the hand, they found an ox foot and behind it a large part of the vertebral column of a reindeer, both in their proper anatomical connection, and a number of dispersed bones (chiefly large fragments). Thus it seems very probable that tools for his use and venison for his food had been placed at the disposal of the deceased.[23]

At Grimaldi, in the sepultures of the negroid types in the Grotte des Enfants, without speaking of about ten blades of flint that had probably not been placed there intentionally, were found a small blue oval stone on the left of the forehead of the old woman, and another little serpentine disk or pebble, without

[22] Breuil, *L'A.*, XXXI (1921), 344.
[23] *L'A.*, XXIV (1913), 630–632.

perforation, between the two heads. In the earth, on the right arm of the young man was a blade of flint while near the pelvis and the left hand of the old woman two little scratchers were found.[24] The male skeleton discovered in the same cave at 7 m. 15 cm. depth had a plaque of sandstone reddened by peroxide of iron "placed like a nimbus" behind the head. At the side was the base of a stag horn partially deteriorated and a flint blade, under the head a point with a natural notch the base of which had been worked into the form of a scratcher, at the feet a small point, another with median ridge between the rock and the right thigh, a little lower, a flake without signs of having been retouched, and below and behind the head a graver (the flint implements might not have been intentionally placed in the sepulture but found later in the deposit).[25] The female skeleton discovered by Villeneuve at about 1 m. 90 cm. depth was covered with animal bones, jaws of a wild boar, and flint flakes. Under the head it had a white pebble with traces of red color and was literally shrouded in Trochus shells which, not being pierced, could not have belonged to the objects of bodily decoration found not only in the earth neighboring the body but also in the midst of the bones.[26]

At Barma Grande the man discovered by Julien had a large flint flake under the head and two others near the shoulders "like epaulettes."[27] A fairly large piece of gypsum was found near the left hand of the man who lay a little in front of his carbonized companion, the head turned toward the entrance of the cave.[28] In the triple sepulture, at the level of the left hand of the man, a very pretty flint blade 23 cm. long by 5 cm. at its broadest was found. One of its extremities had been retouched as a scratcher. The woman had in her left hand a magnificent flint blade 26 cm. long by 5½ cm. wide. Her head rested on an ox femur the condyles of which passed before the frontal. The head of the young man lay on a large flint blade

[24] *Grim.*, II, 260 and Pls. XXI and XXII.
[25] *Ibid.*, pp. 29–30 and 262 and Pl. XXII.
[26] *Ibid.*, pp. 31 and 278.
[27] *Ibid.*, p. 298.
[28] *Ibid.*, p. 32.

measuring 17 cm. by nearly 5 cm. and having the thickest extremity retouched as a scratcher.[29]

The man of Cavillon had two triangular blades placed against the occiput. Near the body were found some points of the Aurignac type, with split bases, other points, and a metacarpal of the horse, entire and perforated with a large hole. At Baousso da Torre, the man found in the middle of the hearth at 3 m. 75 cm. depth had across the left scapulary spine a superb blade of flint and near the hand a big pebble reddened with oligist of iron. The disarranged male skeleton had between the left arm and the thorax several bone points, one of which had a split base.[30]

Beside the Paviland skeleton was found the entire head of a mammoth still armed with its tusks. Near the thigh, at the usual situation of our pockets, were two handfuls of small shells (*Neritea littoralis*) soaked in red color, and near the breast forty or fifty pieces of round ivory batons, one alone complete, and about 10 cm. long.[31] At Cro-Magnon, among the bones were gathered ivory pendants, worked reindeer horn, and flints.[32]

With the Brünn skeleton whose ornaments we have already remarked they found big perforated disks of stone, little disks with engraved circles, three entire disks in rhinoceros or mammoth rib, three others cut out of the molars of the mammoth, and finally the celebrated statue in ivory without doubt representing a masculine personage of which no more than the head, torso, and left arm remain (Fig. 104, p. 162). Immediately above the skeleton were found a mammoth tusk and shoulder blade.[33] A Solutrian skeleton discovered by the Abbé Ducrost at Solutré had under the right hand two big "laurel leaves," a large number of smaller ones, and a valve of *Pecten jacobaeus* pierced near the hinge. It was also accompanied by two well-

[29] *Grim.*, II, 33–34.

[30] *Ibid.*, pp. 31 and 298.

[31] *Ibid.*, p. 304.

[32] *Ibid.*, p. 304; *Reliquiae Aquitanicae*, p. 70.

[33] Obermaier, *Der Mensch der Vorzeit*, p. 298. Déchelette, *Manuel*, p. 285. Breuil, *L'A.*, 1924, pp. 549–551.

known statuettes of coarse workmanship cut out of fragments of pipestone and figuring reindeer.[34]

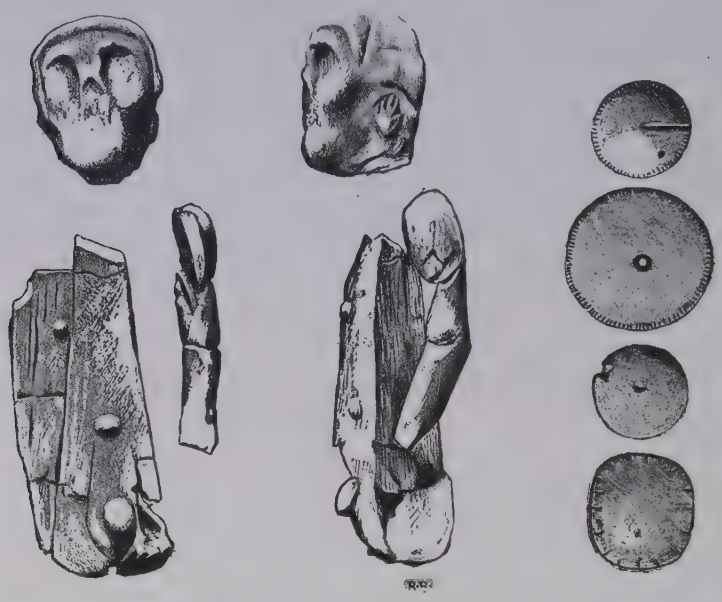

Fig. 104. Funerary furniture of the sepulture at Brno (Moravia). On the left, human statuette in ivory, shown in full face and profile. *Scale:* about 1/3 (after Makowsky). On the right, disks (from the top): of mammoth molar, ivory, red sandstone, quartzite. *Scale:* 3/5 (after Breuil).

The two Obercassel skeletons were accompanied with several engraved bones. With the skeleton of Hoteaux were found worked flints and a Magdalenian "baton of commandment."[35]

The industrial objects found near the bodies might be considered as not intentionally placed there but as fortuitously lost by contemporaries in the same manner as the pieces discovered in the archaeological levels. But it is impossible to consider as accidental the presence of red ocher (clay colored by oligiste or peroxide of iron) scattered in numerous cases about the region occupied by the body, leaving traces of color on the skeletons and surrounding objects. At Grimaldi the trench of the triple sepulture of Barma Grande had received a

[34] Ducrost and Lortet, "Station Préhistorique de Solutré," *Archives du Museum d'Histoire naturelle de Lyon,* I (1872), 11; Pl. VII, No. 8, and Pl. V, Nos. 7, 8, 12, 13. *Rép.,* p. 178.

[35] Boule, *Les Hommes Fossiles,* 2d ed., pp. 269–270. *Rép.,* p. 95, No. 1.

bed of red earth containing a large quantity of oligiste of iron. The head of the skeleton discovered by Julien in the same cave "was in a bed of red earth" and "had a thick coating of red ochre comparable to a skull cap."[36] The bones of the Cavillon man as well as the decorations which accompanied him were thoroughly sprinkled with red powder. The same material had been deposited in front of the mouth and nose in a sort of furrow 18 cm. long, 4 cm. wide, and 3½ cm. deep.[37] At Baousso da Torre the skeleton found at 3 m. 70 cm. depth was sprinkled with oligiste of iron. The man placed on a hearth at 3 m. 90 cm. was covered with a layer of oxide of iron so thick that in certain natural cavities of the bones, the coronoid cavity of the humerus for example, it attained 1 centimeter in thickness, filling it entirely.[38] In the Grotte des Enfants the ornaments of the man found in the hearth at 7 m. 15 cm. depth and the little sandstone plaque on which his head reposed were reddened by peroxide of iron. The sepulture of the negroids contained red powder in the blockading around the head and about the skeleton of the young man. On the other hand, the old woman in the same sepulture did not present any traces of red save on her two bracelets. However, this color probably came from the peroxide of iron spread on the young man.[39]

The body of Paviland had been sprinkled with oxide of iron which, tinting the earth and funerary furniture, formed a coating on the bones in several places.[40] To this particularity is due its name of the "red lady" (the skeleton is, however, probably masculine).

The skeleton and several objects of the Brünn sepulture were partially colored with red.[41] At Cro-Magnon the skull and femur of the old man were reddened owing to fragments of hematite, oily to the touch, which were near them. The coloring is yet visible on such of the bones as have not been washed

[36] *Grim.*, II, 299.

[37] *Ibid.*, p. 298; Rivière, *De l'Antiquité de l'Homme dans les Alpes-Maritimes*, p. 131.

[38] *Grim.*, II, 302.

[39] *Ibid.*, pp. 41 and 260–262.

[40] *Ibid.*, p. 304.

[41] Boule, *Les Hommes Fossiles*, p. 268.

(preserved at the Museum of Paris).[42] The skeleton of Klause was completely surrounded with a great quantity of red powder.[43] At Chancelade a layer of peroxide of iron had been spread over the whole body, coloring the bones a brick red and in certain places violet. "This ochreous layer," adds Hardy, "was not limited to the sepulture and was found on the same level over the whole surface of the station. But the peroxide of iron was in greatest abundance near the skeleton, and it is not impossible that in one of the floods, the traces of which the station exhibits, this diluted iron was dispersed everywhere."[44] The skeleton of Hoteaux was enveloped in red ocher, mixed in small proportions with the earth or clay which, unequally distributed, formed veritable plaques around the head, vertebrae, and ribs. The other bones were so impregnated that one saw it under a thin coating of black earth.[45] The male and female skeletons discovered in the hearth of Obercassel had their bones colored red.[46] Immediately above the skeleton of Duruthy the earth was extremely red.

From what precedes it appears, in a purely objective fashion, without hypothesis or interpretation, that divers Paleolithic skeletons were deposited in ditches, surrounded or covered by stones, ornamented with bodily decoration and probably accompanied with a funerary furniture, laid on a bed of red ocher and covered with the same substance. One also notices indications of particular customs, but more or less exceptional and sometimes problematical. Let us review them.

The practice of placing the funerary furniture not in the tomb itself but in a distinct neighboring cache, chiefly noted in the Aegean Bronze and Copper ages, seems to have existed already among Paleolithic peoples. It is at least significant to note that caches of implements have been discovered in the caves where were also found sepultures. The most remark-

[42] *Grim.*, II, 304; *Alt.*, p. 120.

[43] *L'A.*, XXV (1914), 261–262.

[44] Hardy, *La Station quaternaire de Raymonden* (Paris: Leroux, 1891), pp. 50 and 52.

[45] Tournier and Guillon, *Les Hommes Préhistoriques dans l'Ain* (Bourg, 1895), p. 61.

[46] Boule, *Les Hommes Fossiles*, p. 274.

able cache is that excavated in 1873 by E. Rivière at the cave of Cavillon which had yielded the preceding year the "Man of Mentone." It contained 7,868 marine shells, of which 857 were pierced. The dominant species was *Nassa neritea,* while there were also others, either Mediterranean or Oceanic (*Cypraea europaea, C. lurida, C. physis, C. pyrum, C. fusca*). In the same collection were also found forty small vertebrae of a fish of the genus *Salmo,* twenty-six having central perforations. It is to be noted that what accentuated the funerary rôle of these probably ornamental objects was that "the shells and the vertebrae were entirely covered with a layer of peroxide of iron which gave them a very pronounced red tint and the more or less metallic shine of oligiste of iron."[47]

Already in the Mousterian epoch one encounters at La Ferrassie, very near to and in front of the sepultures of the two children, a distinct ditch of 35 cm. depth and quite abrupt edges which contained only cinders and large bones belonging probably to the ox.[48] Possibly this was a funerary deposit in relation with the sepulture. The same might apply to the little excavation found at the very entrance of the cave at La-Chapelle-aux-Saints, about four meters from the funerary ditch, and which contained, hidden under large blocks of stone, a bison horn accompanied with a large bone belonging to the skull and vertebral column (enormous apophysis vertebra), and below these a pretty flint point.[49] The bison horn of La-Chapelle-aux-Saints recalls on the one hand the mammoth tusk found immediately above the Brünn skeleton, the mammoth head with its tusks which accompanied the "red lady" of Paviland,[50] and on the other the bas-relief of Laussel of a woman holding a horn in her right hand (Fig. 9, p. 17). It would seem that the horns and tusks, that is to say, the sharp defenses of big beasts, for

[47] E. Rivière, *Bulletin de la Société d'Anthropologie de Paris,* 1903, p. 200, and *Bulletin de la Société Préhistorique de France,* I (1904), 86.

[48] *L'A.,* XXIV (1913), 633; Breuil, *L'A.,* XXXI (1921), 344.

[49] *L'A.,* XXIV (1913), 633.

[50] There is no relation whatever between the mammoth tusk of Cro-Magnon and the skeletons. The tusk was two meters below and four meters in front of the skeletons and separated from them by several hearth levels (*Reliq. aquit.,* Figs. 41 and 43).

a reason which escapes us, played a part in the funerary rites and more generally in the beliefs of Paleolithic peoples.

The discoverers of the La-Chapelle-aux-Saints sepultures believed that they found traces of a funerary feast there. But to my mind their own report renders this conjecture uncertain. In fact, they found in this cave reindeer bones belonging to at least twenty-two animals, of bovidae (bison or perhaps *Bos primigenius*) a dozen, of the horse two or three.[51] The quantities of meat represented by these bones very probably could not have been consumed in a single meal, no matter what appetite one accords to the Mousterian hunters. Again, given the minimum number of beasts from which these bones came, each one would demand at least one hunter, if not to kill it and skin it on the spot, at least to bring the choice pieces back to the shelter, and it seems difficult to admit that such a quantity of game and so many hunters could have been found together on the same day. It appears then, as the discoverers themselves admit, that many meals had been taken in the shelter.[52] As only one body was found there, it is impossible to distinguish from the other feasts that which accompanied its funeral.

Neither does the practice of ritual breaking of the objects constituting the funerary furniture seem established in the Paleolithic epoch. A statuette of a reindeer found by Ducrost in the Solutrian sepulture of Solutré was without a head. But there is nothing to prove that the break was voluntary, especially as another sculpture of the same origin had never had a head. Two Magdalenian reindeer-horn carvings of quadrupeds discovered at Enlène by Count Bégouen (Fig. 48, p. 59)[53] show manifest signs of intentional mutilation. Unfortunately there have been found no traces at Enlène of any sepulture, so that if the voluntary fracture of the objects appears incontestable the funerary destination of the operation remains problematical. The explorers of La-Chapelle-aux-Saints on their side have brought to light the fact that among the flint points that they found in this cave, and here in the neighborhood of a

[51] *L'A.*, XXIV (1913), 627.

[52] *Ibid.*, p. 632.

[53] Bégouen, *L'A.*, XXIII (1912), 292–293 and 300–301. *Rép.*, p. 63, Nos. 3–5.

sepulture, a good number (thirty points and twelve ends) were broken near to their pointed extremity. I am entirely in agreement with the finders[54] in considering these points not as arms (arrow or dart heads) but as table utensils intended to split long bones to extract the marrow in the same way that the use of scrapers was to detach the flesh as we do with our knives. But as there were meals at La-Chapelle-aux-Saints which had or had not a funerary significance, these repasts suffice to explain the fragmentary flint points, their extremity having been broken in the bone that they served to split while the other end was used as a lever. Thus nothing authorizes us to believe that these points were expressly broken in honor of the dead.

Cremation does not appear to have been practiced during the Paleolithic epoch. The superficial and irregular burns noted on certain Grimaldi skeletons resulted from the incomplete extinction of the hearths on which they were placed. The same is probably the case in regard to the carbonized skeleton found by Abbo at Barma Grande on a hearth 60 cm. in thickness. The body would have been placed on the hearth when it was yet alight, without the burning of the bones having been premeditated.

Yet problematical and contested, but in my opinion very likely, is the practice of pre-sepulchral excarnation or of interments in two periods, the existence of which in Paleolithic times has been chiefly supported by Cartailhac.[55] One must, it is true, regard as inoperative the argument taken from the fact that in the two skeletons of Chancelade and Baousso da Torre (the man at 3 m. 90 cm. depth), certain natural bone cavities, in particular the coronoid cavity of the humerus, were filled with red powder. The ocher sprinkled on the bodies had been retained in these cavities when it came in contact with them. But whether it came there at the moment of the burial of an excarnated skeleton or reached the bones after the putrefaction of the flesh, one cannot say. An examination of the objects coming from the Brünn sepulture and the loess which surrounded the skeleton proved to Obermaier that the red color could not be considered as having been applied directly to defleshed bones, but that it

[54] *L'A.*, XXIV (1913), 616–618.

[55] *Grim.*, II, 278, 298, 299, 302, 303.

was due to grains of ocher sprinkled in the soil and which, dissolving themselves in contact with the rotting flesh, had tinted the bones and the neighboring objects.[56]

But another fact is less ambiguous. In certain skeletons the bones, more or less incomplete, do not find themselves in their anatomical connection. Such was notably the case in the masculine skeleton found at 3 m. 90 cm. depth at Baousso da Torre, the woman discovered by Villeneuve in the Grotte des Enfants, and chiefly the skeleton of Hoteaux the femurs of which were found inverted. It is without question that the bones had been placed by man in a position different from that which they occupied in the body after death. One can, it is true, admit that the body normally buried had been later overturned by carnivores, or even by the men who lived above the sepulture, and then put back in place as well as possible.

But other facts do not agree with this explanation. Rivière found at the base of the cave of Cavillon the broken radius of a child and two foot bones of a man, very strongly colored with red, as well as a series of shells, some pierced, strewn about the vicinity.[57] This clearly indicates a custom relative to bones. It may be a little abusive to speak of a funerary rite, each individual being represented but by one or two little bones. One would sooner imagine a cache of amulets. Perhaps the numerous isolated finds, most frequently mandibles and skulls, should be interpreted in the same manner. The skulls from the cave of Placard (Upper Solutrian and Lower Magdalenian) which exhibit manifest traces of intentional defleshment and incontestable retouches transforming them into cups are worthy of a special mention.[58]

In other cases, which it is rather difficult to separate from the foregoing, there seem to have been actual funerary practices. In the same cave of Placard a woman's skull entire with its jaw (Lower Magdalenian) was placed on a rock, surrounded with 170 pierced and unpierced shells of different species.[59] At Pech de l'Aze (Sarlat, Dordogne), the skull of a five- or six-

[56] Obermaier, *Der Mensch der Vorzeit*, pp. 298–299.
[57] *Grim.*, II, 298.
[58] Breuil and Obermaier, *L'A.*, XX (1909), 523 *seq.*
[59] *Ibid.*, p. 211.

year-old child (Mousterian) was surrounded by intentionally broken animal bones (*Bos,* stag, horse, and a few of the reindeer), teeth and numerous scrapers and points well retouched.[60] A Mousterian skeleton with flexed lower extremities, found in 1921 in a ditch at La Ferrassie, had the face and jaws removed from its skull, which was placed 1 m. 25 cm. from the body.[61] These divers facts, and others less clear, suggest that interment (taken in a broad sense) was not the sole treatment applied by the Paleolithic peoples to their dead. In particular, it seems that there was inhumation or exposition of incomplete or mutilated bodies or of certain parts of the bodies.

Once the existence of funerary customs and practices is established, one may ask by what sentiments the men of those distant ages were inspired, and what conception they had of death.

The care given the bodies, as it is understood, was dedicated to beings which had no longer terrestrial existence, and this implies a belief that the deceased preserved after his death a certain entity. This posthumous life appears to have been conceived as similar to earthly existence and subject to the same needs which must be provided for in like manner. Thus the ornaments left with the dead, the funerary furniture, and, in certain cases, the provisions of food (quarters of venison at La-Chapelle-aux-Saints, the piece of *Trochus* accompanying the feminine skeleton in the Grotte des Enfants) are explained.

Conclusions, to my mind unwarranted, have sometimes been drawn from the folded or hunched-up positions seen in divers corpses. It is certain that the gathered-up posture resembles objectively that of sleep, above all among primitive peoples. But even if it was given to a body to symbolize the analogy of death with sleep, we do not learn from it whether mortal sleep was considered as definite or simply temporary, to be followed by a posthumous awakening. The huddled-up disposition has also been compared to that of the fetus in prenatal life, the conclusion being that death was considered as the initial

[60] Capitan and Peyrony, *Bulletin de la Société d'Anthropologie de Paris,* 1910, p. 48.

[61] *Ibid., Revue Anthropologique,* XXXI (1921), 382–388.

period of a new life which began in the womb of "mother earth."[62]

But this is an arbitrary conclusion. It is very adventurous, and, in various cases, certainly erroneous to attribute to primitive peoples the knowledge of the fetal attitude which, in fact, even our occidental civilization acquired but recently.[63]

As regards the sentiments which dictated the care given to the bodies, a disinterested piety such as one finds in present-day civilization is hardly compatible with the rudeness of primitive ages. It seems infinitely more reasonable to consider the funerary practices as dictated by utilitarian preoccupations effected much less in the interest of the deceased than in that of the survivors. The steps taken in regard to the corpses (placed in ditches or tombs) certainly had (and yet not always) the effect of protecting them against the ravages of wild beasts, but it is not established that this was the end in view. If, in certain cases, one can imagine as the explanation of the huddled-up attitude of bodies deposited in the ditches the desire to reduce the dimensions owing to the difficulty of digging with the rudimentary tools of the time, this hypothesis is not applicable to bodies which were not deposited in artificial ditches, and especially to the masculine skeleton of La Ferrassie, placed in a natural depression which continued in back and thus would have held it at full length. It is contradicted by the triple sepulture of Barma Grande where the bodies were stretched out although placed in an artificial trench.

The folded bodies had, it is true, the advantage of reducing to a minimum the place they occupied in the shelters and thus were rendered less cumbersome to the survivors who continued to occupy it. But without wishing to generalize too much in a question where the facts are extremely complex and often discordant, it seems that at least in certain cases the survivors, like the Veddas of Ceylon, had given up to the dead the shelters where they had buried them. This is suggested by the bodies found on the hearths which had afterward been abandoned, and by the thick sterile layers which separate certain sepultures

[62] A. Dieterich, *Mutter Erde, Ein Versuch über Volksreligion,* Leipzig, 1905.

[63] Cf. Ploss-Bartels, *Das Weib,* 8th ed., 1905, I, 824–831.

from upper archaeological levels, as in the Grotte des Enfants for instance.

It is then doubtful whether, in a general fashion, the funerary practices had been dictated more by the directly utilitarian interest of the survivors than by that of the defunct. There appears to remain but one hypothesis, that their object was to preserve to the survivors the most advantageous relations with the dead or their spirits.

It is extremely difficult to express an opinion upon the dispositions lent to these spirits. Did primitive men simply propose to cajole powers which had no preconceived evil intent by according them regard which they considered themselves entitled to or did they wish to appease by marks of respect fundamentally evil spirits, or to put them materially beyond the ability of doing harm? It is very difficult to choose between these divers conceptions, which, besides, probably confused themselves more or less in the Paleolithic mind, because comparative ethnology shows us different and even opposed conceptions sometimes juxtaposed in the same surroundings.

Even in the beliefs which subsist in our modern civilization, the "ghosts" return to exercise vengeance or claim some posthumous regard which had not been granted them, and we have difficulty in believing that death could suddenly wipe out all the inclinations that the dead had during their lives for their enemies and friends. Among us, the living pray for the dead, and the dead for the living. But it is necessary to guard oneself against spontaneously transferring our own conceptions to primitive peoples. In taking their point of view, one understands without difficulty that, according to them, the dead, by the fact of their being dead, take a hostile attitude toward the living, even toward those loved during life. In a general manner, for primitive peoples, death, as illness, is the result of a magical operation, and the decease that we consider as produced by natural causes is attributed by them to an act of sorcery whose author they try to discover by various means. Such being the case, one understands that the dead were considered as having a vengeance to wreak upon their presumed murderers, and the innocent survivors could fear to be the

victims of this vengeance, by virtue of the equally frequent idea of collective responsibility, surviving in Corsican vendettas. Thus it seems that the essential attitude toward the dead was fear, and that the funerary practices were measures of protection against them. The ditches and the tombs would not have been a shelter for the dead, but a prison, and I am inclined to take to the letter the remark of the Canon of Villeneuve that the stones placed on the female skeleton in the Grotte des Enfants seemed to have been intended to fix the deceased in the trench.

This interpretation appears to me confirmed by the disposition of the bodies. In the Mousterian skeletons of La Ferrassie, that of the man was stretched on his back, the legs closely folded and turned to the right, the left arm placed along the body, the right cramped and uplifted, the head turned back over the strongly raised right shoulder, while the mouth was wide open. The woman lay on the right flank, the legs closely folded, the right forearm flexed leaning along the thigh with the hand on the knee, the assemblage of the legs and arms forming an *N*, a distance of only 16 cm. separating the shoulder from the knee.[64] At La-Chapelle-aux-Saints the left arm was stretched out, but the right arm was probably folded, bringing the hand near the head. The legs were also folded and turned to the right. They were lifted up to such a point that the kneecaps were found almost at the level of the breast.[65] The skeleton of Le Moustier was placed with the back upward, the left arm and the right leg outstretched, the left leg folded, the right elbow under the cheek, the right hand against the occiput.[66] One of the two skeletons of Spy was on the side, the hand resting against the lower jaw.[67]

At Grimaldi, in the Grotte des Enfants, the two children discovered by Rivière were disposed on their back with their extremities stretched out and the elbows slightly removed from the body.[68] Of the four skeletons encountered by Villeneuve,

[64] Breuil, *L'A.*, XXXI (1921), 343–344.
[65] *L'A.*, XXIV (1913), 629–630.
[66] Hauser, *Archiv für Anthropologie*, N. F. VII (1909), 290.
[67] Déchelette, *Manuel*, I, 280.
[68] Rivière, *De l'Antiquité de l'Homme dans les Alpes-Maritimes*, Pl. XIII.

the woman found at 1 m. 90 cm. depth and the man at 7 m. 5 cm. had their heads turned to the left and the lower members stretched out. But whereas the woman[69] had the upper members stretched entirely parallel to the body, the forearms of the man (Fig. 105, p. 173) were tightly flexed so that the hands were in front of the neck. As for the two negroid skeletons, that of the young man lay slightly on the right side. His left arm was stretched the length of the thorax, and the lower extremity of his forearm approached the median axis of the body in such a manner that the phalanges of the left hand were encountered on the right iliac bone. The opposite upper member was found in the extension, but it was removed a little from the body, and lay under the vertebral column and the femur of the old woman. The femurs were lightly flexed and brought parallel on the right side. The legs were folded up under the thighs to such a point that the left heel almost touched the tuberosity of the ischium.

Fig. 105. Masculine skeleton from the Grotte des Enfants (excavations of Villeneuve) (after Verneau).

The old woman was laid flat on the stomach to the right and above the preceding body. At the moment of the discovery the face was

[69] *Grim.*, II, 27, Fig. 3.

Fig. 106. The two negroid skeletons of the Grotte des Enfants (Anthropological Museum of Monaco) (after Verneau).

directed vertically below and the occipital region upward. The thighs were flexed to the maximum, the right applied along the

Fig. 107. "The Man of Mentone" (cave of Cavillon). Photograph taken at the excavation before exhumation (after Rivière).

Fig. 108. Triple sepulture of Barma Grande (after Verneau).

vertebral column, the left along the thorax so that the knees were found at the level of the scapulo-humeral articulations. The legs, in their turn, were tightly folded under the thighs,

the feet coming up near the pelvis. The forearms were folded above, so that the left hand was above the shoulder blade. The right humerus stretched along the vertebral column of the young man, the elbow a little removed from the ribs and the hand applied just in front of the neck (Fig. 106, p. 174).[70]

The man of Cavillon lay on the left side, the legs quite strongly flexed and the forearms folded so that the hand

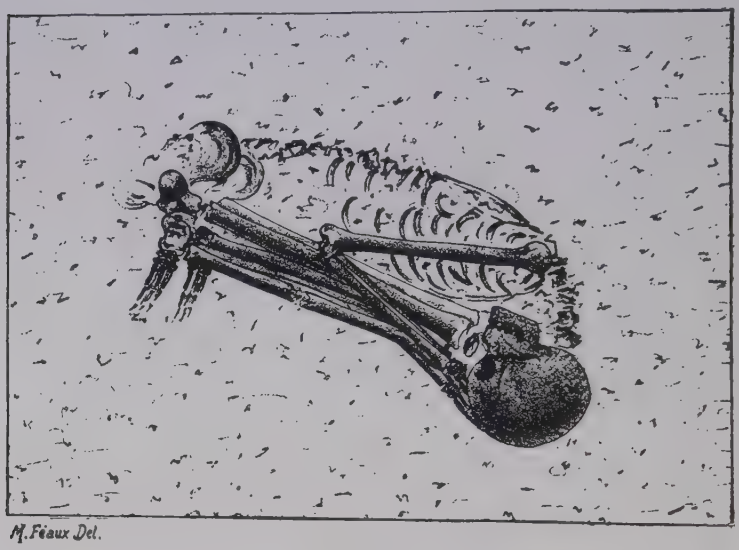

Fig. 109. The skeleton of Chancelade (Dordogne) (after Hardy and Feaux).

reached the level of the chin (Fig. 107, p. 175). At Barma Grande, in the triple sepulture, the man was stretched on his back, the head resting on the left side. Upper and lower members were completely stretched out. The left arm followed a direction parallel to the axis of the body, the right arm was brought slightly into the median plane so that the hand was found between the two femurs. The two other skeletons were lain on the left side with the forearms strongly flexed, the

[70] *L'A.*, XIII (1902), 566–567; *Grim.*, II, 25–27 and 260. In our Figure 106 the position of the head of the old woman has been altered to show the characteristics of the face; its position at the moment of discovery was given in *L'A.*, XIII (1902), 567, Fig. 2 (Verneau).

hands level with the face. The lower members of the woman were stretched out, those of the young man slightly bent (Fig. 108, p. 175). The skeleton found by Abbo a little higher than the triple sepulture and nearer the back of the cave was lying on its side with the lower extremities extended and the legs crossed at the shins. The forearms were flexed, the left more closely than the right. The right arm was a little removed from the body and the head leaned against the upper part of the thorax.[71] The skeleton discovered near the last, although incomplete, showed that the legs had been huddled up.[72]

The "Crushed Man" from Laugerie-Basse (Dordogne) had been closely drawn up and placed on his left side, the left hand on the parietal, the right on the neck, the elbows almost in contact with the knees, one foot nearer to the pelvis than the other. The bones were hardly displaced by the slight settling of the earth. The vertebral column was crushed by the corner of a large rock, and the pelvis was broken.[73] The old man of Chancelade lay on the left side. The head was strongly inclined forward with face down. The vertebral column itself was curved in such a way that it formed an arc with its convexity to the rear. The forearms were folded on the breast and the hands turned back, the left on the lower left side of the head, the right on the left side of the lower jaw. The lower members were also closely flexed, the feet brought to the level of the ischii and the knees in contact with the dental arch (Fig. 109, p. 176). The space occupied by the skeleton was but 67 cm. long and 40 cm. wide.[74]

From the comparison of these different skeletons, in particular of those which belong to the narrowly limited region of Baoussé-Roussé, and chiefly those of the same cave, it results that the disposition of the corpses was subjected to no fixed rule. The orientation of the bodies relative to the cardinal points or to the axis or mouth of the cave, the attitude (stretched out or flexed) given to the upper and lower members, the use of red

[71] *Grim.*, II, 24–25, 26, Fig. 2.

[72] Obermaier, *Der Mensch der Vorzeit*, p. 189.

[73] Cartailhac, *La France Préhistorique*, p. 110 and Fig. 46.

[74] Hardy, *La Station quaternaire de Raymonden* (Paris: Leroux, 1891), p. 49.

ocher, present all imaginable varieties impossible to connect with a difference in epoch, social scale (judging from the richness of bodily decoration), age or sex.

I point out specially the fact that women appear to have been treated from a funerary point of view in exactly the same manner as men. This is contrary to a hypothesis intended to explain the numerical preponderance of feminine figures as compared to male during the Aurignacian epoch, after which woman would have been regarded as but a brood mother. To restrict ourselves to the Aurignacian sepultures of Grimaldi, the young woman placed between the man and the adolescent in the triple sepulture of Barma Grande (Fig. 108, p. 175), the old negroid woman placed later in the tomb of the young man about sixteen years old in the Grotte des Enfants (Fig. 106, p. 174), the woman of already advanced age interred alone in the same cave, establish the fact that the women were not buried to accompany in death a husband or child, but on their own personal account.

Special attention must be given to the sometimes complete flexion found in the upper or lower members of several skeletons. Not only, as the anatomist Testut[75] has pointed out in the case of the Chancelade skeleton (Fig. 109, p. 176), is it an unnatural position that a body could only assume artificially, thus sufficing to establish the existence of funerary practices, but it also implies that the corpse was bound at the moment of death, the operation becoming impossible later owing to muscular rigidity.

The precise question which now arises is the following: Was the body trussed to give it a huddled position or, on the contrary, was this the result of the binding, and was not the binding in the intention of the funerary practices its essential element? There seems to be no doubt as to the answer. The hunched-up position given to bodies, a custom which spread among primitive peoples the world over, is generally due to their bandaging. Wherever one can obtain a precise explanation of this custom from those who practice it, they declare that they bind their dead to keep them from "coming back" to torment

[75] L. Testut, "Recherches Anthropologiques sur le Squelette de Chancelade," *Bulletin de la Société Anthropologique de Lyon*, VIII (1889), 133.

the living.[76] I will add that if the binding was the essential operation, one can explain more easily the diversity of attitudes presented by the various members of the skeletons. Provided the dead were tightly pinioned, rendering them unable to quit their mortuary home, the position of the members was of but secondary importance and could be left to individual initiative.

The number of skeletons discovered in the excavation of caves and shelters is very small compared with the population witnessed by archaeological deposits. This fact would not be surprising if the main object of funerary practices consisted in precautions for the preservation of the body. From ethnological comparisons, bodies may have been buried in uninhabited places, thrown into rivers, suspended in trees, abandoned in the open, and, briefly, left where they were totally destroyed.

In short, the facts noted regarding Paleolithic sepultures suggest that, in the beliefs of the time, the dead continued a life analogous to that of the survivors, subject to the same needs which must be provided for in the same fashion, and during which they preserved relations with the living who seem to have been in fear of such and to have taken precautions to protect themselves.

[76] R. Andrée, "Ethnol. Betrachtungen über Hockerbestattung," *Archiv für Anthropol.*, 1907, pp. 282 *seq.*

VII.

RELIGION AND MAGIC

IN spite of its relation to religion in the strictest sense, the cult of the dead is distinguishable in that the individuals to whom it is addressed were known to the survivors as ordinary men. On the contrary, even when legend grants more or less close relations between divinities and men, among others of kin, religion deals with beings considered as of a non-human essence.

Thus defined by the nature of the beings to whom it applies, of just what does religion, properly called, consist?

In spite of the complexity of religion and the infinite diversity of the forms under which it manifests itself in concrete reality, it seems to me characterized by an attitude of the whole individual, body and soul, which I will call *devotion*. Its fundamental, the absence of which constitutes irreligion, is the individual's sense of his feebleness and dependence in relation to the higher or divine forces. This religious feeling, like all ideas, reveals itself by acts which express it.

Devotion thus understood is classified under different forms according to the individual conception of the nature of the superior forces which, in developed religions, constitutes theology. The endowment of the divinities conditions their activities. Like all beings, they act according to their nature, and their activity is of the very highest interest to the men who must submit to its effects. But the relations between man and the divinities can be conceived either as one-sided or reciprocal.

Man can believe that his devotion leaves the divinity absolutely indifferent, exercising no influence whatever. Here, devotion is solely an attitude of abandon where the elements of fear and reverence combine themselves. When the divinity is conceived as well disposed the feeling is of thanks and love, an entirely disinterested attitude which I call piety.

But man can also believe that the divinity is not insensible to his devotion. The deity can after all do what it wishes, but devotion can incline it to wish this or that, and in particular to act advantageously for the devotee, in the same way as the attitude of a man toward other men can modify their intentions and conduct toward him. In this conception, devotion, while recognizing that man cannot escape from divine strength, becomes a means of directing it in a favorable channel, thus taking a most utilitarian character.

Devotion so understood, opposed to disinterested piety, presents in its turn two varieties differentiated by the efficacy which is attributed to it; whether its influence on the divinity is considered as simply persuasive and susceptible to checks, or as rigorously compelling, the divine will being considered as free of, or subject to, ritual practices. In the first case, which constitutes pure religion, the devotee hopes to touch the divinity, to conciliate it, without certainty of success. In the second, on the contrary, the divinity does not always do what it wishes and it cannot will things contrary to the intentions of the devotee, which characterizes magic. The worshiper, become magician or sorcerer, dominates the divine will upon which he depends. This is Bacon's conception regarding physical forces applied to a divine power—practically synonyms—that man subdues them by knowledge of their nature and by appropriate practices the success of which is assured if properly carried out.

In short, religion consists in the attitude at once mental and corporeal of man, devotion, which may take the three principal forms of piety, religion properly called, and magic.

Whatever may be the interest of this theoretical analysis, the different forms of religious attitude that they distinguish are but abstractions, pure types. In developed and systematic religions, and even in reflective individuals, one can see their coexistence in spite of their fundamental incompatibility. It is in vain, I think, that we try to discern whether the religious attitude of the Paleolithic hunters, on which we are informed but by rare and ambiguous vestiges, merits rather the title of religion or of magic. If one realizes that our philosophy has not yet reached a solution of the problem of human liberty nor even succeeded in giving it in terms devoid of ambiguity, one may

hardly be astonished if prehistoric man had not attained a clear conception of divine will and of the eventual influence exercised on it by the ritual practices issuing from devotion. For this epoch then, the words magic and religion may be considered as synonymous.

If now we consider the operations, practices, or rites through which man hopes to exert an influence over the forces on which he depends, one can, according to their nature, divide them into three principal categories.

In the first conception, known under the name of *sympathetic magic,* the magical influence operates through figured representation. In making a painting, an engraving or a sculptured image of a being, one acquires a domination over it, and compels it more or less or at least inclines it to that which is desired.

In the second conception of magical practices the execution of images has no part whatever. These may comprise diverse ceremonies, more or less complicated, vocal or mimetic acts, incantations, dances, etc., without figured representation of the beings to whom they are addressed.

In a last conception, intermediate to the two preceding, the magical virtue belongs, as in the second, to ceremonies. These, performed before images of the being to be influenced, demand, as in the first conception, the execution of images. But this execution is not magical in itself, and the figures or idols have no other rôle than to receive the ritual ceremonies alone efficacious.

Of course, the conceptions thus distinguished by abstraction can be reunited in the same surroundings. For example, ceremonies performed in front of idols for their benefit can reinforce the magical virtues which these images already possessed by the very fact of their execution. Or again, the ritual ceremonies not addressed to the idols can consist at once in the execution of images and practices not related to them. But the three typical conceptions that I have distinguished seem to me to comprise all the elements which are found, isolated or combined, in magico-religious customs of the most diverse environments.

The first signs of religious practices date from the pre-Mousterian epoch. In the two caves of Drachenloch (Canton of

St. Gallen, Switzerland) and Petershöle (Middle Franconia) there have been discovered deposits of bones of the cave bear, certainly intentional, and not the remains of meals. These collections gathered either in caverns difficult of access or even in artificial stone cists covered with a rock slab, consisted of bones from the extremities and a great many skulls, generally accompanied by one or two of the first vertebrae. It is consequently almost certain that they had been placed there as venison, being the choicest pieces of game. As sepultures are absent, one can consequently deduce an offertory rite without funerary character. It would be extremely adventurous to go further determining whether these offerings were made to the bear itself, possibly with the intent of magically acting on the results of the hunt, or to a divinity proper in our own sense of the word.[1]

An attempt has been made to establish a genetic connection between the European civilization of the Reindeer age and two of the lower stages of civilization distinguished by ethnologists, totemic civilization and that of the masks.[2] In my opinion, this conception, precise in its form, is not sufficiently supported by known facts. But there is no exaggeration in granting the Europeans of the Reindeer age a mentality similar to that of the hunting peoples known to ethnology. One may consequently consider as probable their practice of magic, inasmuch as their funerary customs seem to have had as an end the exercising of an influence on the spirits of the dead. However, this is but an external probability which would gain by being reinforced, if possible, by inherent arguments taken from the Paleolithic remains themselves. Those from which one can hope to obtain data are of two sorts, first, the figured representations, second, the traces left of the ritual practices themselves.

As for the figured representations, we have already had occasion to study them apropos of the magical destination which has been attributed to them.[3] It will then suffice to recall our

[1] Cf. O. Menghin, "Der Nachweis des Opfers in Altpalaolithikum," *Wiener prähistorische Zeitschrift,* XIII (1926), 14–19.

[2] Cf. F. Kern, "Die Weltanschauung der eiszeitlichen Europäer," *Archiv fur Kulturgeschichte,* XVI (1926), 273–299.

[3] Cf. above, pp. 101–106.

conclusions on this point. In the case of images of wounded animals, the practice of spell casting seems to us very probable. On the contrary we consider magical intent as very problem-

Fig. 110. Anthropoid figure (man with a long beard, the tail of a horse, and perhaps the antlers of a stag). Engraving on a schist plaque (Lourdes). Actual size (after Breuil).

atical in scenes of daily life, of war and the chase, and in isolated unwounded figures of men and animals.

Yet, among these representations, nonmagical in themselves, some might figure either divinities or sorcerers in the per-

formance of their functions and which, under this head, would reveal magical beliefs or practices. There are some figures which, of human form in their *ensemble,* present details corresponding to animal characteristics. The discussion to which these "quaternary masks"[4] gave rise has hardly any more than a retrospective interest.

Indeed, the adversaries were expressly in agreement on two points. First that the existence of Paleolithic "masks" was possible and even probable, judging from ethnographical parallels,

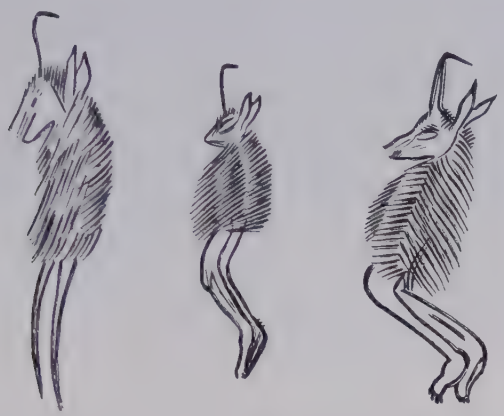

Fig. 111. Anthropoid figures (men with chamois heads). Engraved on a perforated reindeer-horn baton (Abri Mège, at Teyjat, Dordogne). Actual size (after Breuil).

then to make this probability a certainty it was necessary to find some figures uniting human characteristics with equally incontestable animal features. The discussion was based on the existence of such, but the then known documents only embraced some drawings having human characters while their animal features were ambiguous. It was on the interpretation of the latter that the opponents disagreed. For one side these peculiarities, not being manifestly human, were animal. For the other, not being manifestly animal, they were badly drawn human elements. Thus the argument was reduced to an opposition of

[4] W. Deonna, *L'A.,* XXV (1914), 107–113 and 597–598; *Revue Archéologique,* I (1915), 172–176. Breuil, *L'A.,* XXV (1914), 420–422; *Revue Archéologique,* II (1914), 300–301. Luquet, *L'A.,* XXI, 409–423; XXX (1919), 388–389.

subjective impressions, clearly insoluble as long as, if I may use the term, the "brief" remained incomplete. But on the other hand it would naturally be settled from the discovery of figures combining incontestable human and animal characters. Today we have documents fulfilling those conditions. The head of the man with a long beard and horse's tail engraved on a schist plaque at Lourdes (Fig. 110, p. 184) appears surmounted with a large stag antler. The little fellows engraved on a perforated stag horn baton from Teyjat (Fig. 111, p. 185) have very recognizable chamois heads. A masculine figure from La Madeleine (Fig. 112, p. 186) engraved on a pebble has its head surmounted with a distinct mask. Finally, the figure engraved and painted on the wall of the cave of Trois-Frères (Fig. 119, p. 198) with its horse's tail, its bearded head with ears and stag antlers, leaves no room for doubt.

Fig. 112. Anthropoid figures (probably a masked man and woman), engraved on the two sides of a small limestone pebble (La Madeleine, excavations of Capitan and Peyrony). Actual size (after Breuil).

Thus the existence of actually hybrid figures, half human and half animal, appears henceforth indubitable. If the incontestable specimens are few in number, the uncertain, by themselves insufficient to allow a firm conclusion, acquire in the light of the others an actual though lower value.

Now, what is the signification of these figures? Two interpretations are possible. They could well represent beings recognized as having at once a human and an animal nature, that is to say, divinities, or again men in animal disguise corresponding to ceremonial practices which, from ethnological comparisons, had in all probability a magico-religious character. Each interpretation does not necessarily exclude the other. It is possible

that certain figures were determined by the first intention and others by the second. In any case the interpretation which regards them as disguised men seems the best founded because in the engraving from La Madeleine the human visage is seen under the mask. On the other hand, the practice of magical disguise could have contributed to the belief in hybrid divinities. The power of sorcerers, occasional or professional, being attributed to their disguise, an association of the ideas of the aspect at once human and animal with magical force resulted. Thus it was quite natural to also imagine divinities disposing of the same powers under a hybrid form. Besides, the mixed

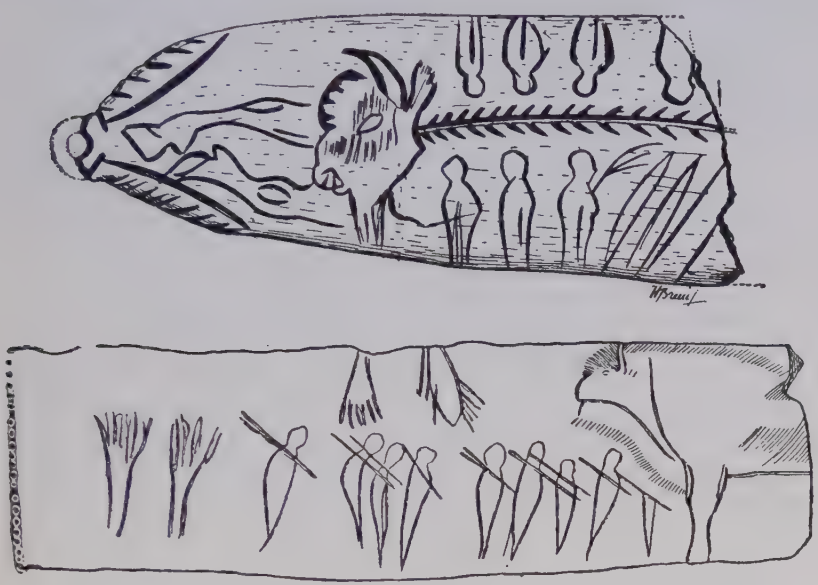

Fig. 113. Representations of processions (?). Above, an engraving on a blade of bone (pendant) (shelter of Raymonden, Chancelade, Dordogne). Actual size (after Breuil). Below, engraving on a rib (shelter of the Château of Les Eyzies, Dordogne). *Scale: 2/3* (after Peyrony).

beings actually seen by Paleolithic man in magical ceremonies left visual images which, because of the vital interest these ceremonies had, could not fail to reappear in their dreams and in states of sorceric trance. But with primitive peoples there is no difference between actual vision and the images of hallucination. For them, mixed beings seen in dreams exist and, not

being men, can be but divinities. One thus understands in a manner satisfactory for our reasoning and founded on primitive mentality how hybrid divinities could have originated from the practice of disguise, and this interpretation presents the maximum probability that can be expected from such a reconstruction.

Whether or not the hybrid figures represent divinities or sorcerers, they most probably witness the existence of magico-religious practices and beliefs during the Paleolithic epoch. Besides it is necessary to note that, if they figure sorcerers, the attribution of a magical virtue to the figures themselves is particularly doubtful, and if they figure divinities, we are ignorant as to whether the rites, besides artistic representation, comprised ceremonies, either independent from or addressed to the idols.

In my opinion it is in vain that we look in certain images for more precise indications of the nature of these ceremonies. An engraving from Chancelade (Fig. 113, p. 187) might represent a procession of human beings disposed in two files following the process which I have called "hinging." One of the figures even seems to be carrying a sort of palm. In another engraving from the Château of Les Eyzies (Fig. 113, p. 187) two lines of persons, placed between marks that might be meant for trees or hands, are seen facing a bison, each individual appearing to carry a stick on his shoulder. But in all these examples the coarseness of the design renders the interpretation uncertain. This is also the case for two wall paintings of Alpera which might represent the exaltation of an idol. At Queso (Fig. 114, p. 189) a carefully painted personage seems to be lifting by the feet a small and carelessly executed human figure like an idol. But the difference in artistry between them suggests that there is but an accidental juxtaposition of the drawings of different artists. In a painting from La Vieja (Fig. 115, p. 190), a woman holds in her left arm an object of which the *ensemble* corresponds to that of a rough statuette. Although the rock exhibits around this object different figures having no relation to it, notably an arrow, the gesture of the arm fully extended seems to indicate that there is no question of a simple juxtaposition, but that the artist actually intended to represent a

woman lifting something. However, the execution is too coarse for one to affirm whether this is a statuette or *a fortiori* an idol. In an Aurignacian relief from Laussel (Fig. 9, p. 17) a woman holds a form which has every appearance of a horn. But there is no guarantee that this horn had any religious significance.

Also certain Paleolithic images have been considered as

Fig. 114. Human figures painted in light red, over which has been painted a wild goat in dark brown (shelter del Queso at Alpera, Province of Albacete, Spain). *Scale:* 1/3 (after Breuil).

representing ritual dances. It is convenient, in discussing this interpretation, to distinguish two sorts of dances, the gambols of violent leg movements, and the more serious expressing an action or sentiment analogous to our character interpretations. In that which concerns the latter, the figure is in a neutral attitude for the pictorial action could represent walking as well as dancing. Thus it is necessary that there be some other quality indubitably intended to show ceremonial activity. The question

is precisely presented in the celebrated group of figures at Cogul (Fig. 116, p. 191).

Objectively, it comprises nine women divided in two groups, five to the left, the other four to the right with a masculine figure. The situation of the little man in the midst of the female figures is what suggests a religious ceremony where he would be either a sorcerer or perhaps, in consideration of his small size, an idol to which the ritual is addressed. But it must be determined whether the assembly of these ten figures actually corresponds to an intended group, or if it is not simply a fortuitous juxtaposition, as in one case on the very panel which we are studying. Woman No. 7 obliterates all but the hind quarters of a certainly older little animal in flat red. Under women Nos. 3, 4, and 5 is found a small schematic human figure in flat red. It is probably earlier than the women and is reduced to two legs wide apart, a small torso bent backward, and a very flat horizontal head, elliptical like that of the bison hunter painted on the same rock. There is also a doe painted in flat black having a central blank, whose chronological relationship to the group of women is difficult to settle, but which certainly has no more connection with them than has the little red man. However, the conception of the nine feminine figures as one group appears very likely in spite of the differences in color which must result from successive corrections or restorations. It appears as though one of them holds her arms toward her neighbors as if to form a chain. The latter, however, seem little interested.

Fig. 115. Feminine figures of which one lifts up an object, possibly an idol (shelter of La Vieja at Alpera, Province of Albacete, Spain). *Scale:* 3/16 (after Breuil).

Fig. 116. Wall painting from Cogul (Province of Lerida, Spain).
Scale: 1/4 (after Breuil).

But the most important question is whether the group of women form an intentional *ensemble* with the masculine figure. A rite of fecundity has been mentioned. But without repeating my general criticism to which we earlier submitted the idea of a cult of reproduction among hunting peoples,[5] it seems that, in such a hypothesis, the figure corresponding to the fecundity principle, satyr or idol, would forcedly be ithyphallic, which in reality it is not. The different styles of the figures would incline one to credit them to divers authors. The sectioned arms of the women are opposed to the one-piece arms of the man, as the latter's rectilinear and threadlike legs are to those of the women, thicker and having accentuated knees and calves. It is, truly, a matter of subjective impression. But the dark brown color of the male figure differs from that of the black women which are the nearest. Finally, this figure, which presents no traces of correction, seems later than that of one of the women on which it trespasses a little. The masculine personage would then have been added to a picture which, originally, comprised but women. For these different reasons one should hesitate to see a ritual ceremony in the panel of Cogul.

Concerning the gambol dances, one can cite in favor of their existence human figures which, by their general attitude and the movement of their members, appear to be dancing. But here, as in the question of masks, it is necessary to consider carefully whether the attitude of the personage could not be explained as well or even better by other reasons than the intention of the artist to represent dancers. The "Dancer" of Mas d'Azil (Fig. 4, No. 5, p. 12) has exactly the same movement as other figures from Altamira, Combarelles, and the Grotte David at Cabrerets,[6] certain of which have never been considered as dancing. Here as there, the aspect of the figures (arms, bent or not, extended to the front and almost perpendicular to the body, legs bent at the knee and forming a more or less obtuse angle with the trunk) is sufficiently explained by primitive graphic technique. These are not dancers, but men articulated like puppets, and at the same time quadrupeds par-

[5] Cf. above, pp. 109, 110.

[6] *Rép.*, pp. 7 and 8, Nos. 1 and 6 (Altamira); p. 57, Nos. 1–3 (Combarelles). *Revue Anthropologique*, 1924, pp. 165 *seq.* (Grotte David).

tially erect, but which the artist has not yet learned to bring to a completely upright posture.[7]

The representation of the dance seems more probable in two neighboring and almost identical figures at La Vieja (Fig. 117, p. 193). Objectively, they are men seen from the front with head in profile, legs apart and bent. The realistic rendition of the movement, which characterizes all personages of this style, if not in its execution, at least in its intention, seems to me to forbid considering the attitude of the legs as simple puppet movements. It must be the intention, and on the other hand does not seem to correspond to an attitude of the chase judging from

Fig. 117. Dancer with headdress of plumes, beside a wild goat repainted at two successive epochs (shelter of La Vieja at Alpera, Province of Albacete, Spain). *Scale:* 1/4 (after Breuil).

the way in which the bow is carried, held vertically by the lower end with the string outward, and the arrows pointing downward. There is evidently no question of hunters in the act of shooting the bow, neither do they appear to be going

[7] Cf. Luquet, *L'A.*, XXI (1910), 414–422; XXX (1919), 389, note 1. *Comb.*, pp. 114–116.

after game at a more or less rapid pace as in the other figures of the same group where they carry the bow under the arm, string upward, the hand holding at once the bow in the middle and the arrows horizontal. It appears to show an activity comparable to the Australian corroboree, and it is certainly possible that this dance had to some degree a religious or at least a ceremonial character.

Finally, no hesitation is possible in the case of the figure engraved and painted on the wall of the cave of Trois-Frères (Fig. 119, p. 198). The artistic character of this drawing does not allow its attitude to be considered as due to infantile execution, and as the individual is incontestably hybrid or masked, the most reasonable interpretation without possible contradiction is that it represents a sorcerer in the performance of his functions.

In short, if one tries to reduce to a minimum the proportion of subjective impressions which cannot be entirely eliminated, it seems to me that an attentive critic must hesitate to base judgment upon figures other than those of the cave of Trois-Frères, but, inversely, it would be prudence exaggerated to the point of timidity to refuse a demonstrative value to the latter, which constitutes a chief document and in my opinion a decisive one in favor of magical dances during the Magdalenian epoch.

The finder of these figures has called to the support of Paleolithic dances another of his discoveries which has no bearing on figured art. In a small chamber of the cave of Tuc d'Audoubert, situated a little in front of that where the bison sculptured in clay were found, and where Paleolithic men had removed the clay and even left small prepared sausage-shaped lumps without doubt intended for the execution of these figures, he discovered on the floor, among an interlacing of incomprehensible curves, imprints of naked feet, so clear that one could distinguish the calluses of the sole. But these imprints correspond exclusively to the heels. No complete foot or toe marks have been found there, although impressions of entire feet, and particularly of toes, were seen in a deeper part of the cave beside some bones of the bear. According to Count Bégouen, this fact could be explained by a ceremony where the participants walked according

to a determined rite, as seen among certain African and Australian peoples.[8]

This interpretation seems to me extremely adventurous. The soil was very smooth and the imprints very clear. There were only about forty of them found, and even in admitting that they had been left by only one individual, the presumed ceremony must have been very brief to have left so few imprints. On the other hand, the finder himself remarked that the ceiling of this room was so low that almost from the entrance one could not stand upright therein. This disposition of the place explains fully why the artist or artists who came there to get the clay for the statues of the bison were obliged to walk on their heels. Thus it seems to me arbitrary to see in the imprint of the heels the trace of some magic ceremony.

Finally, the strange peculiarity which is presented at Gargas in a number of outlined hands has been considered as an indication of practices having a more or less religious character. One, several or even all of the fingers are deprived of the terminal phalanges (Fig. 118, p. 196). This aspect of the images may receive two interpretations. The living hand which served as a pattern was either mutilated or intact with fingers folded. Without wishing to definitely take sides the discoverers seem to have a preference for the first interpretation. Ethnology furnishes numerous examples of the mutilation of the fingers corresponding to religious rites, funerary or propitiatory, whose significance seems even forgotten by those who practice them.[9] If then the figures at Gargas had been obtained with mutilated hands one could conjecture that similar practices existed among the Aurignacians.

The complexity of the facts could not accommodate itself with too simple an explanation. First, digital mutilation, if it ever existed, was not a general and systematic practice. Besides, to my knowledge, no mutilation of the fingers has been encountered in the skeletons found in the sepultures. All the

[8] Count Bégouen, *C. R. de l'Académie des Inscriptions,* 1912, p. 537; *L'A.,* XXIII (1912), 659–663.

[9] Luquet, *Journal de Psychologie,* 1922, pp. 813–814; *Revue de l'École d'Anthropologie de Paris,* 1894, p. 167. Obermaier, *Der Mensch der Vorzeit,* p. 430. Ratzel, *Volkerkunde,* I, 306 and 690.

Fig. 118. Pattern paintings in black (dark gray) and red (light gray) of hands, parts of hands, fingers, etc. (cave of Gargas, Hautes-Pyrénées) (after Breuil).

images of hands encountered anywhere besides those at Gargas, and several there, correspond to intact hands. Even the "mutilated hands" of Gargas present amputations so diverse that they are hardly in accord with a systematic practice and which, seen on several and even all the fingers of male hands, it seems difficult to conciliate with the conditions of a hunter's existence, even though only left hands are shown. If one supposes that the hands which served as patterns belonged to sorcerers, with whom the mutilation of the fingers was related to their sacred character and who, nourished by the community, had no need to hunt, the number and variety of the mutilations are no better explained.

Thus it appears to me much more reasonable to consider the majority of "mutilated" images of Gargas as executed with intact hands having the fingers folded. The discoverers remark, it is true, that experiments made by themselves and their friends with fingers folded have failed to give silhouettes so clearly cut as those of the hands at Gargas in the parts corresponding to the "mutilations." But, in their experiments, they have projected the coloring matter with their hands, as our contemporaries naturally imagine proper, and not with the mouth, a process to which, judging from ethnographical parallels, it is at least possible the Aurignacians of Gargas had recourse, and which would make the contours clear around the folded fingers. I am very much struck by the fact that in all the "mutilated" images the two end phalanges are missing together, and that no case has been reported of the end phalange alone being missing. This is explained by folded fingers, as the two phalanges always flex together. Finally, one of the hands on the left wall (Fig. 118, p. 196; the lowest hand to the left of the upper group) has all the fingers incomplete and the thumb totally absent. Furthermore, the absence of the thumb in the image does not appear to be due to a disarticulation. The image does not present the projection which, in the case of disarticulation of the thumb, would correspond to the extremity of the first metacarpal, but the contour descends in an almost straight line in the extension of the first finger as if the metacarpal itself had also been removed. This aspect of the figure is explained if obtained by placing on the wall a hand the thumb of

which had been folded under. Of the four outlined hands of Font-de-Gaume, the one which resembles a sort of oval horse-shoe seems also to have been made with a closed fist.[10]

This does not go to say, however, that none of the images at Gargas had for pattern an actually mutilated hand. The Abbé Breuil has remarked several of them identical in outline that

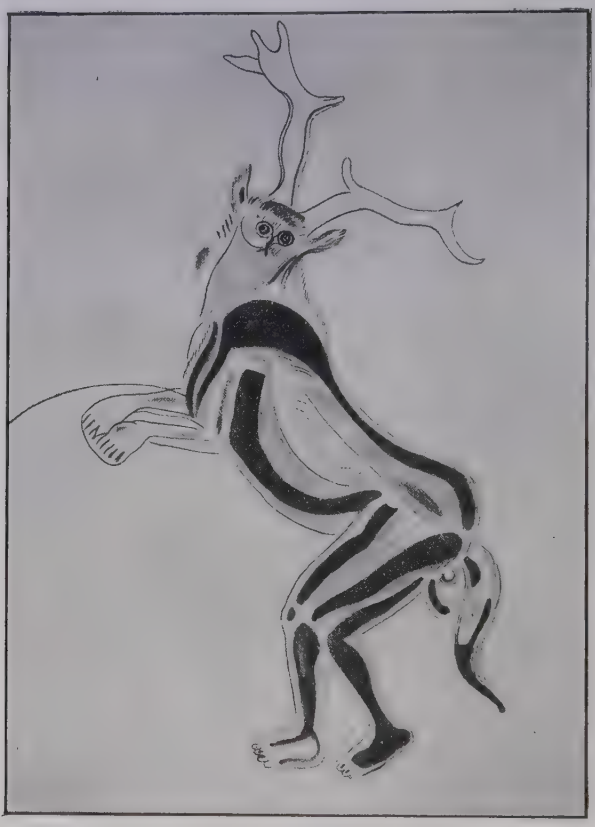

Fig. 119. Dancing sorcerer (?). Figure engraved and painted on the wall of the cave of Trois-Frères (Ariège). *Scale:* about 1/10 (after Bégouen and Breuil).

must have been executed with the same hand as they present the same mutilations.

Then this is the problem: One at least of the hands which

[10] *F. de G.*, Dordogne, p. 72, note.

served as a pattern at Gargas was actually mutilated; others were not. It does not seem to me very likely that the images of the hands had a magic rôle,[11] but even if we grant it, it was not necessary that they have a mutilated appearance, since everywhere else and even in several examples at Gargas they correspond to an intact hand. Thus, if the idea of representing disarticulated members by using intact hands with folded fingers could have been suggested by images of actually mutilated hands, it must correspond to an intention nonmagical but purely artistic, to a desire to obtain by a change in the pattern the most diversified outlines. The question finally reduces itself to this: Was the actual mutilation which one of the hands at Gargas probably presents accidental, or did it result from a practice, restrained to a limited category of individuals and dictated by certain beliefs of a magical order?[12] It seems to me impossible to do more than place the question in its precise terms. Here, as in so many other points, a scrupulous examination of the facts does not authorize at the moment any firm conclusion.

[11] Cf. above, pp. 108–110.

[12] At Madagascar, even now, children born under an evil influence have their little finger mutilated. The minister of Queen Ranavalo, Raini-Iaiarivony, was an example of this practice (lecture by Governor Julien).

CONCLUSION

THE essential conclusions which reasonably result from the analysis and comparison of facts relative to Paleolithic art and religion can be summarized in a few lines.

The sepultures witness that from the beginning of the Reindeer age and even without doubt from the Mousterian, the deceased were considered as preserving after death an existence comparable to that of their terrestrial life, in which they maintained with the living relations which the funeral rites were intended to render as favorable or at least as little dangerous as possible. Thus men of that time believed on the one hand in the survival of the dead, on the other in the efficacy of certain practices intended to act upon them.

The very probable examples of spell casting, either by wounds made on images of animals or by graphic representation of these wounds, suggest that man believed it equally possible, at least in the Magdalenian epoch, to exercise an influence on animals by appropriate operations. It is probable that the known utility of disguises in the chase brought about a belief in their magical virtue, thus making them sorcerers' attributes. All indications on the operations of these wizards are lacking. In particular, the existence of sympathetic magic, the belief that the representation of a being confers by itself a domination over that being on the author or eventually on the possessor of its image, is simply probable. In any case, it does not suffice to account for all the Magdalenian figured works, and remains extremely doubtful for those of the Aurignacian.

Even if art later received a magical destination, thus utilitarian, it was at the beginning purely disinterested and had no object other than beauty. It was at first conceived under two forms which correspond to two kinds of art, decorative and figured. The beauty of decorative art is essentially aesthetic in the etymological sense of the word. It is a pleasure taken in sensorial impressions produced by modifications or additions

applied to preëxistent objects, the human body, or instruments of utility. The beauty of figured art is the pleasure resulting from the experience of the ability to create undergone by the artist. The objects represented by these images were naturally those of which the idea was present in the mind of the artist, either through the general conditions of his existence or temporary circumstances. But the nature of the representations interested him much less than the very fact of reproducing resemblant images. This resemblance or realism acquired perfection owing to qualities of minute observation and manual ability developed by the practice of the hunt. But up to the apogee of the Magdalenian it preserved traces of intellectual realism which characterizes the drawings of children. Furthermore, in the case of Paleolithic men as in that of our children, this intellectual realism is the indication of an activity of psychological origin, since the mental image translated into lines by the artist is not a purely passive registration but an elaboration of the mind on visual sensations.

Real or intentional art, under double form, figured and ornamental, had as its source purely utilitarian activities. But man, having recognized that their results possessed an aesthetic character, repeated them voluntarily with the intention of producing beauty which had been originally a fortuitous effect. It was only during the Magdalenian that the convergence of ornamental art purely geometric with figured art free of embellishing intent brought about the decorative utilization of figured motives. It was possibly at this time that figured art acquired a magical destination. However, this could have been added but through the creative character in its very essence. Besides, even in the figures of a probable magical purpose, the execution has been careful in view of an aesthetic effect. Thus, even in the utilitarian employment of art, which was but one of its later developments, there subsists its original disinterested character.

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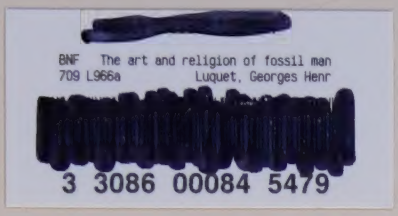
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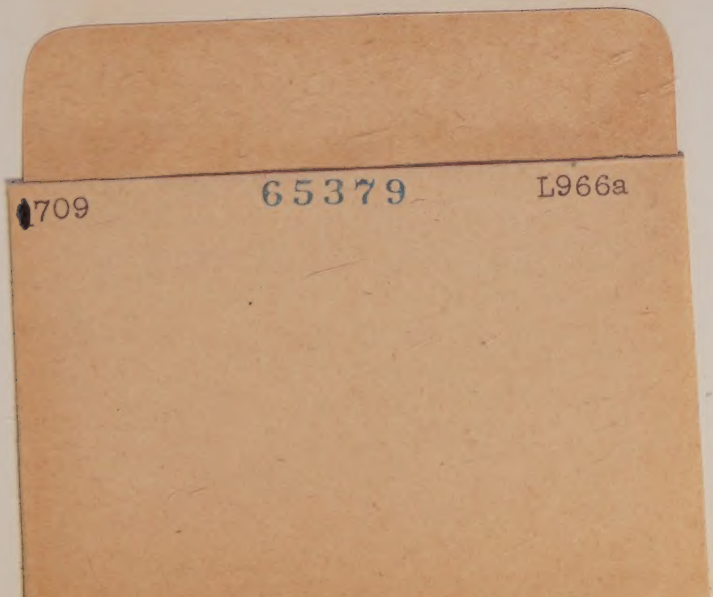
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